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IN THE

Supreme Court of the United States

OCTOBER TERM, 1995

EXXON CHEMICAL PATENTS, INC.,
EXXON CORPORATION, AND
EXXON RESEARCH AND ENGINEERING CO.,

Petitioners,

v.

LUBRIZOL CORPORATION,

Respondent.

Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

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PETITION FOR A WRIT OF CERTIORARI

Charles Alan Wright
727 East 26th Street
Austin, TX 78705
(512) 471-7188

E. Edward Bruce*
Robert A. Long, Jr.
John F. Duffy
COVINGTON & BURLING
1201 Pennsylvania Avenue, N.W.
P.O. Box 7566
Washington, DC 20044
(202) 662-6000

Counsel for Petitioners

* Counsel of Record

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QUESTIONS PRESENTED

1. Whether the court of appeals erred in holding, contrary to the law upon which many thousands of patents are based, that patents for chemical composition products cannot be claimed solely by identifying the ingredients used to make the composition?

2. Whether the court of appeals erred in directing entry of judgment for respondent on a theory that was never argued in district court or on appeal, instead of remanding the case to give petitioners the opportunity to show that they had proved or could prove infringement under the appellate court's unanticipated construction of the patent claims?

PARTIES TO THE PROCEEDING

Petitioners Exxon Chemical Patents, Inc., Exxon Corporation, and Exxon Research and Engineering Co., and Respondent Lubrizol Corporation, are the only parties to this proceeding.[1]

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[1] The listing of parent corporations and subsidiaries required by Rule 29.6 is at App. 95a-108a.

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PETITION FOR A WRIT OF CERTIORARI

Petitioners, Exxon Chemical Patents, Inc., Exxon Corporation, and Exxon Research and Engineering Co. (hereafter collectively "Exxon") ask this Court to grant a writ of certiorari to review the judgment of the United States Court of Appeals for the Federal Circuit.

OPINIONS BELOW

The opinions of the panel of the court of appeals, Appendix ("App.") 1a-37a, are reported at 64 F.3d 1553. The opinions of the court of appeals denying Exxon's petition for rehearing and suggestion for rehearing en banc, App. 68a-84a,

are reported at 77 F.3d 450. The final judgment and order of the United States District Court for the Southern District of Texas, App. 42a-45a, is not reported.

JURISDICTION

The judgment of the court of appeals was entered on September 1, 1995. A timely petition for rehearing and a suggestion for rehearing en banc was filed by Exxon on September 29, 1995, and was denied on February 23, 1996. App. 68a-69a. This Court's jurisdiction is invoked under 28 U.S.C. § 1254(1).

FEDERAL RULE INVOLVED

Federal Rule of Civil Procedure 50, at issue as to Question 2, provides in part:

> **(a) Judgment as a Matter of Law.**
>
> (1) If during a trial by jury a party has been fully heard on an issue and there is no legally sufficient evidentiary basis for a reasonable jury to find for that party on that issue, the court may determine the issue against that party and may grant a motion for judgment as a matter of law against that party with respect to a claim or defense that cannot under the controlling law be maintained or defeated without a favorable finding on that issue.
>
> (2) Motions for judgment as a matter of law may be made at any time before submission of the case to the jury. Such a motion shall specify the judgment sought and the law and the facts on which the moving party is entitled to the judgment.
>
> **(b) Renewing Motion for Judgment After Trial; Alternative Motion for New Trial.** If, for any reason, the court does not grant a motion for judgment as a matter of law made at the close of all

the evidence, the court is considered to have submitted the action to the jury subject to the court's later deciding the legal questions raised by the motion. The movant may renew its request for judgment as a matter of law by filing a motion no later than 10 days after entry of judgment — and may alternatively request a new trial or join a motion for a new trial under Rule 59. In ruling on a renewed motion, the court may:

(1) if a verdict was returned:
  (A) allow the judgment to stand,
  (B) order a new trial, or
  (C) direct entry of judgment as a matter of law; or
(2) if no verdict was returned;
  (A) order a new trial, or
  (B) direct entry of judgment as a matter of law.

STATEMENT OF THE CASE

The Federal Circuit in this case held that proof of infringement of a patent which claims a chemical composition by listing its ingredients requires more than a showing that the alleged infringer has used precisely those ingredients to make a competing product. The Federal Circuit's decision, if not reviewed by this Court, could render valueless many thousands of patents on chemical compositions that have been issued by the Patent and Trademark Office.

1. Exxon's Invention.

In the mid-1970s, Exxon determined that the control of oxidation in motor oils (which enhances corrosion of engine parts) would be increasingly important, because new, smaller engines would work harder and become hotter. (A296-97;

A304-07; A314-15).[1] In a breakthrough 1977 experiment, Exxon discovered that, contrary to conventional wisdom, copper when added to motor oil compositions produced "outstanding" antioxidant effects. (A544-47; A882-83). After extensive testing and field trials, Exxon applied in 1979 and 1980 for patents on its invention in the United Kingdom ("U.K."), Europe, the United States, and elsewhere. (A10758-66; A2526). Exxon began to market such motor oils in 1980 (A559-60; A10768-69), and was soon using copper in virtually all of its U.S. automobile motor oils (A441-42; A696; A1735-36). Exxon's invention "exceeded all . . . expectations" and was "far superior on a cost/potency basis" to the previous antioxidants used in such motor oils. (A562; A10755-57).

On September 19, 1989, U.S. Patent 4,867,890 (the "'890 patent") issued to Exxon. Claim 1 defines a composition in terms of its ingredients: (a) lubricating oil; specified amounts of (b) an ashless dispersant, (c) an oil-soluble compound containing zinc to inhibit engine-wear (ZDDP), and (d) an oil-soluble copper compound; and (e) a magnesium or calcium salt detergent. *See* App. 18a-20a; *see also id.* at 5a-6a (summarizing claims).

2. Lubrizol's Infringement.

In 1981, Lubrizol's director of research learned of Exxon's invention from its U.K. patent application and ordered his researchers to determine whether copper in fact had antioxidant effects. (A752-58; A1936-37; A10792-94). On July 2, 1982, Lubrizol researchers circulated a memorandum stating that "[t]he goal of Lubrizol copper work was to exploit the use of oil soluble copper oxidation inhibitors as described in an Exxon patent application." (A776; *see also* A1408-15).

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[1] Citations are to the record Appendix filed in the Court of Appeals.

Over the next four years, Lubrizol's evaluation of copper additives, like Exxon's prior research, led Lubrizol to conclude that copper was the "most effective" oxidation inhibitor in motor oils. (A11122; A789-90). In late 1988, Lubrizol recognized that Exxon "[c]ould hit us in USA" with an infringement suit. (A11253). While Lubrizol considered removal of copper due to anticipated "patent troubles" from Exxon, it ultimately decided to proceed with its "fingers crossed." (A11255; A1853-54). Lubrizol's sales of automobile motor oils made with a copper ingredient rose to over $100 million in 1992. (A1347; A1444-45; A11256). By the time of trial, it had sold over $300 million of these products. (A11256).

District Court Proceedings

On the day that its patent was issued, Exxon filed a complaint alleging patent infringement against Lubrizol in the United States District Court for the Southern District of Texas. (A7555-58). Discovery lasted more than three years, entailing 110 depositions, millions of pages of document discovery, and other voluminous written discovery.

Lubrizol did not dispute that its accused products were made by using the precise ingredients in the amounts specified by Exxon's patent. Instead, its primary defense at trial was that the ingredients listed in Exxon's claims did not refer to the ingredients that were put "into the pot" to create the motor oil composition, but instead described the substances as they later existed within such a composition. Thus, the decisive question at trial was whether Exxon's patent claimed a composition made from the combination of stated ingredients in their specified amounts or whether, as Lubrizol asserted, Exxon's patent claimed a motor oil composition in which

could be found each of the five substances listed in Exxon's patent.[2]

Exxon's support for its view as to the construction of its patent turned upon the claims and specification in the patent itself, the "prosecution history" of the patent claims at the United States Patent and Trademark Office, and testimony by persons skilled in the relevant art as to how they would interpret Exxon's claims. That testimony was summarized in the dissenting opinion of Judge Nies:

An Exxon employee who helped prosecute the applications testified that, based on his examination of "probably literally thousands of lubricant patents over the years," Exxon's patent claim specifying ingredients used to make the composition was "like a standard format for a composition." App. 31a. As he explained, "it is sort of like baking a cake. You mix them [the stated ingredients] together." *Id.* Lubrizol's own employees confirmed this interpretation. Mr. Pindar — described by Judge Nies as "a scientific advisor to Lubrizol, read[ing] the claims as a person of skill in the art" (*id.*) — determined whether Lubrizol's product infringed the European counterpart of Exxon's patent "by comparing the starting ingredients, not the final or intermediate products." *Id.* Similarly, Dr. Salomon, who also worked for Lubrizol, testified "that her concern as a [lubricant] formulator is 'what goes in[to] the pot.'" *Id.*

At the close of Exxon's direct case and again after all of the evidence was admitted, Lubrizol filed motions for a judgment as a matter of law ("JMOL") under Fed. R. Civ. P. 50, arguing that Exxon had not proved infringement because it had not established that the substances listed by Exxon as

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[2] Specifically, Lubrizol contended that, although it put the "ashless dispersant" described in Exxon's patent "into the pot," once there it became "non-ashless" because it formed an association or "complexed" with the zinc compound, ZDDP.

ingredients could be found in their described form and amounts in the final product at the end of the manufacturing process. The trial judge denied Lubrizol's motions. Agreeing with Exxon, he instructed the jury that Exxon's patent "claims cover the ingredients which go into the composition." App. 7a.

So instructed, the jury returned a verdict for Exxon which concluded that Lubrizol had willfully infringed Exxon's patent. In a subsequent phase of the case, another jury fixed Exxon's damages at $48 million — which were doubled under 35 U.S.C. § 284, because of the willful nature of Lubrizol's infringement and its obstructive conduct — with prejudgment interest of $8.7 million. App. 59a-67a. The District Court also awarded Exxon $23.7 million in attorneys' fees and costs based on 35 U.S.C. § 285 (prevailing party fee award) and 28 U.S.C. § 1927 (vexatious litigation fee award), after concluding, *inter alia*, that "Lubrizol [had] acted in bad faith throughout [the] entire litigation." App. 43a; *see also id.* at 58a, 64a.

Proceedings in the Federal Circuit

Lubrizol's appeal to the Federal Circuit pursued the arguments that it made below, contending that the substances listed in Exxon's patent claims must be found in the final products in the form and amounts recited in the patent. On September 1, 1995, the Court issued the opinion and judgment that is the subject of this petition.

The panel majority construed Exxon's patent claims by briefly discussing the language of the patent claims and specification, as well as the patent's prosecution history, *id.* at 2a, 7a-8a, while ignoring the evidence presented at trial describing how Exxon's patent was like "thousands" of others which simply listed the ingredients that were used to make a composition. In this fashion, the panel majority rejected Exxon's argument that its claims covered "whatever product results from the use of the . . . ingredients." *Id.* at 8a.

However, the lower court also rejected Lubrizol's contention that the Exxon patent claimed only an end product in which all of the substances listed as ingredients could be found in the same form and amounts specified in the patent claims. *Id.* at 8a-9a. In the panel majority's view, Lubrizol would infringe if, "at any time" during the manufacturing process, the ingredients listed in Exxon's patent were present in the form and amounts specified in the patent. *Id.* at 9a.

The panel majority recognized that Lubrizol's interpretation was "too narrow," *id.* at 9a, and "less generous to Exxon," *id.* at 17a, n.6, than the court's "broader" interpretation, *id.* at 9a. However, Exxon was not given an opportunity to take advantage of that more "generous" or "broader" approach to proving infringement. Instead of remanding the case to the district court for further proceedings in the light of the Federal Circuit's newly-minted claim construction, the court awarded Lubrizol judgment as a matter of law.

Judge Nies dissented as to both aspects of the decision below. Based on her own reading of the patent claims, specification, and prosecution history, as well as the expert testimony, she concluded that the trial court had correctly adopted Exxon's view of its claims as a statement of "required five ingredients . . . regardless of any unknown reactions or metal complexes" after they were mixed together. *Id.* at 26a. She emphasized that her "concern" was "not merely [with] this case," but rather with the majority's "technical rules for how chemical compositions must be claimed." *Id.* at 23a.

Judge Nies also disagreed with what she termed "the majority's . . . extraordinary disposition" of the case in directing judgment for Lubrizol. *Id.* at 33a. Describing "[t]he majority decision [as] com[ing] out of the blue," she stated that "Exxon cannot conceivably have waived the issue of

infringement under the majority's broader claim construction." *Id.* at 36a-37a.

Rehearing in the Federal Circuit

Exxon filed a timely petition for rehearing and a suggestion for rehearing en banc, which the court of appeals denied on February 23, 1996. That action prompted three separate opinions.

Judge Newman dissented on the ground that "[t]he panel majority's new rule of 'claim construction' will cast a cloud upon many thousands of existing patents," cause a "serious disruption of chemical patent-dependent activity," and impose a "massive taint upon existing property rights." App. 71a, 74a. She recognized that Exxon had used a "standard way of claiming chemical compositions . . . by their ingredients":

> Naming the chemicals and their amount is the clearest, most accurate, and most comprehensive way of describing such inventions. Often there is no other way of describing chemical compositions . . . . It is not necessary to know what physical or chemical interactions occur in the container in order to describe this invention, which resides in the combination of listed ingredients.

Id. at 74a-75a. Judge Newman supported her views with two leading treatises on patent claim drafting (*id.* at 75a, 77a), a survey of the format used in numerous patent claims issued by the Patent and Trademark Office in just a single week (*id.* at 77a-78a), and the expert testimony from both sides in the case (*id.* at 76a n.2, 78a-81a).[3]

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[3] Like Judge Nies, Judge Newman also disagreed with the panel's refusal to remand the case to allow Exxon to present evidence or argument relevant to the panel's construction of Exxon's claim. App. 75a-77a.

Judge Mayer concurred, but did not take issue with Judge Newman's view of the case. And, like Judge Nies, he recognized that the panel majority's construction of the claims had come "out of the blue": "Two judges have divined an interpretation of the claim that occurred to no one else in this extensive litigation. None of the parties or the trial court offered the interpretation that these two judges chose, and none of the extensive evidence about how those skilled in the art would understand the claim supports it." App. 70a.

Judges Clevenger and Plager, the two members of the panel majority, did not dispute Judge Newman's view of the implications of their opinion as to how patents for chemical compositions must be drafted. They recognized that Judge Newman's opinion reduced to "a simple proposition" that Exxon's patent claims cover the product that "results from mixing the ingredients named in the formula" and that, under such a view of the law, "Exxon would have won on its proofs in this case." App. 70a. They, however, disagreed with Judge Newman on that "simple proposition." They adhered to the view that to prove infringement of chemical composition claims, as the Federal Circuit now interprets them, Exxon had to prove that Lubrizol composition "contains the specified ingredients at any time from the moment at which the ingredients are mixed together."[4] App. 9a; *see* App. 70a-71a.

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[4] The two members of the panel majority also asserted that the "basic claim interpretation theory adopted by the court was put forth by Lubrizol in its defense to Exxon's suit." App. 71a. However, the panel majority did not attempt to reconcile this assertion with its earlier description of its construction of the claim as being "broader" and more "generous" than Lubrizol's.

REASONS FOR GRANTING THE WRIT

I. The Federal Circuit's Ruling Undermines Established Law, Upon Which Thousands of Existing Patents Are Based, That Allows Composition Of Matter Products To Be Claimed Solely By Listing Ingredients.

A. The Federal Circuit's Decision Is Inconsistent With Established Patent Law.

Exxon claimed a new and very valuable composition of matter by describing the specific ingredients in the specific amounts that are used to make the composition. The claims of Exxon's patent were drafted in a standard format used in "[m]any thousands of chemical patents." App. 72a (Newman, J., dissenting from denial of en banc rehearing). Prior to the Federal Circuit's decision, this format for claiming a composition had consistently been sanctioned by the federal courts, patent treatises, and the Patent and Trademark Office ("PTO").

The Federal Circuit repeatedly recognized that Exxon had claimed its new composition in terms of "specific ingredients." *See, e.g.*, App. 2a, 4a, 7a, 9a. However, it interpreted Exxon's standard "ingredients-list" format as describing what the court below referred to as the "ingredients" existing within the composition, as opposed to the ingredients that go into the composition. *See id.* 8a, 10a, 13a. The decision below — left standing by the Federal Circuit en banc over a dissent that described its sweeping consequences — abruptly changes the requirements for claiming compositions of matter and undermines many thousands of existing patents.

In *Holland Furniture Co. v. Perkins Glue Co.*, 277 U.S. 245 (1928), this Court defined the manner in which a patent should claim a composition of matter: A "patent, so far as it is a patent of a composition of matter, should contain some description of the *ingredients entering into the composition*

which would both define the invention, . . . and carry it beyond the previous development of the art." *Id.* at 254 (emphasis added; citations omitted). As the Court stressed, "[t]here can be no description of a composition of matter without some designation of its ingredients." *Id.* at 255. *Holland Furniture* is, of course, consistent with the most natural meaning of "ingredient" — *i.e.*, "something that *enters into* a compound." *Webster's Third New International Dictionary* 1162 (1968) (emphasis added).[5]

Holland Furniture also reflects the settled law recited in patent treatises, which for more than 100 years has formed the basis for drafting composition of matter patents. As Professor William Robinson explained in his classic treatise:

> [a] composition of matter is an instrument formed by the intermixture of *two or more ingredients*, and possessing properties which belong to none of these ingredients in their separate state. An ingredient is a substance which, though capable of independent existence, may yet so far *lose its identity and individuality*, when mingled with other substances, as no longer to be distinguishable from them.

1 William C. Robinson, *The Law of Patents for Useful Inventions* § 192, at 278 (1890) (hereinafter *Robinson on Patents*) (emphases added). As Robinson shows, *after* the moment at which the ingredients are mixed together, they may lose their separate identities, and it may be impossible to distinguish or to describe them separately. Thus, while inventors always know what ingredients go into forming a new

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[5] "Ingredient" derives from the Latin "ingredi," a verb meaning "to go into" or to "enter." *Webster's Third* at 1162. *See also* 1 *The Compact Edition of the Oxford English Dictionary* 1436 (1971) (noting ingredient derives from root "ingredi" which means "to enter").

composition of matter, they may not know precisely what happens to the ingredients after they are mixed together.[6]

Holland Furniture and the Robinson treatise were supported by lower court cases, holding that the "ingredients" of a composition of matter claim refer to ingredients as they enter into the composition, not as they might later exist within the composition. For example, in *Panzl v. Battle Island Paper Co.*, 138 F. 48, 53 (2d Cir. 1905), the Second Circuit upheld a composition of matter patent upon proof "that by compounding the ingredients in the proportions stated . . . a new and highly useful result is obtained." The lower court opinion in *Panzl* reveals that the claim was written in the traditional form that was used here. *See Panzl v. Battle Island Paper Co.*, 132 F. 607, 608 (N.D.N.Y. 1904) (claim 3 — 26% hydraulic cement, 12% chamotte, 21% quartz and a suitable quantity of diluted silicate of soda).[7] Moreover, as Lubrizol alleged was the case here, the ingredients listed in *Panzl* did

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[6] Robinson also shows how the Federal Circuit improperly conflated composition of matter patents with patents for other products where the parts or elements typically remain unchanged during the manufacturing process:

> [An ingredient in a composition of matter patent] differs from a part or element of a machine or manufacture which, however closely united with its associated parts or elements, always preserves its own identity, and is discernible in its independent as well as in its combined condition.

Robinson on Patents § 192 at 278.

[7] In *Chadeloid Chemical Co. v. Frank S. De Ronde Co.*, 146 F. 988, 989 (C.C.S.D.N.Y. 1906), the plaintiff's claims were similarly drafted ("four parts each of paraffin and currier's hard grease, eight parts benzol, and seven parts methyl alcohol"). The court held that the infringement was proved where "[t]he materials *used by the defendant in compounding* its product are practically similar to those of the composition in suit, and by their use the same product is created." *Id.* at 991-92 (emphasis added).

not retain their same form when combined. *See id.* at 610 (noting that, when combined, "the cement and the silicate of soda react upon each other, [and] there is formed mono calcium silicate and caustic soda"). Nonetheless, it was entirely proper to claim the composition by ingredients, and to say that the composition "contain[s]" those ingredients, *id.* at 613.[8]

The principles recited in *Holland Furniture*, the Robinson treatise, and the early cases have been universally accepted by patent practitioners and the courts. Modern patent treatises follow Robinson in recognizing that compositions of matter are properly understood as a combination of ingredients which do not necessarily maintain their own separate identity and individuality within the composition.[9] Furthermore, there appears to be no modern case in which a party has even argued — let alone where a court has suggested — the approach to claim construction that has now been adopted by the Federal

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[8] The panel majority bolstered its decision by noting that both the title of Exxon's patent and its specification refer to the composition of matter as "containing" the described ingredients, although that word is not used in the claims themselves. App. 7a-8a. The majority offered no support for this construction of the word "containing," and it obviously defies common usage — *e.g.*, an angel food cake "contains" egg whites, but only in the sense that they were one of the ingredients used in baking the cake.

[9] *See*, 1 Donald S. Chisum, *Patents* § 1.02[2], at 1-10 (1995) (quoting Robinson); 3 Ernest B. Lipscomb III, *Walker on Patents* § 11.8, at 328-29 (3d ed. 1985) (same); 3 Anthony W. Deller, *Patent Claims* § 463, at 39 (2d ed. 1971) (same). The leading text on patent claim drafting confirms that Exxon — like many thousands of other patent holders — properly claimed a new composition of matter simply by listing ingredients: "Composition of matter claims list the chemical ingredients (compounds, elements or radicals) making up the composition or compound." Robert C. Faber, *Landis on Mechanics of Patent Claim Drafting* § 49, at 148 (3d ed. 1990).

Circuit.[10] Certainly, the Federal Circuit cited no authority that calls into question the approach used by Exxon here.

History explains the traditional approach of claiming new compositions by listing ingredients: In the past, the only practical way of claiming compositions of matter was by listing the ingredients used in their manufacture. Even with today's modern technology, it is often very difficult or impossible to determine all of the substances inside a composition.

B. The Federal Circuit's Disregard Of The Testimony By Persons Skilled In The Art Regarding Their Understanding Of The Patent Demonstrates The Broad And Unqualified Nature Of Its Ruling.

The district judge entertained argument on claim construction and other jury instructions, after he had heard all of the evidence. At that time, he recognized that "these patents are directed . . . toward formulators" of lubricating oils, and he agreed that "there is no dispute how the formulators have read this patent." (A1973). Thus, an Exxon witness established that its patent claims were drafted in "a standard format for a composition" and disclosed "what is combined to make the

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[10] The few post-*Holland Furniture* cases which even discuss claims for compositions recognize that they may be claimed by their ingredients. *American Purifyne Co. v. Novedel Process Corp.*, 3 U.S.P.Q. 180, 185 (2d Cir. 1929) (a composition of matter is properly identified where "both ingredients of the mixture were known and the means of identifying them were known"); *American Chemical Paint Co. v. Firestone Steel Products Co.*, 117 F.2d 927, 930-31 (6th Cir. 1941) ("for compositions of matter . . . [i]nfringement depends upon the identity or equivalence of the ingredients"); *Application of Henderson*, 348 F.2d 550, 551 (C.C.P.A. 1965) (applying Robinson); *Application of Lindner*, 457 F.2d 506, 507 (C.C.P.A. 1972) (interpreting claims for a composition "comprising" substance (a) and substance (b) to be directed to a "composition of ingredients (a) and (b)").

product." App. 31a (Nies, J., dissenting; quoting A909). Dr. Salomon, Lubrizol's own lubricating oil formulator, confirmed this interpretation of the patent claims:

> THE COURT: You get a list of chemicals to put into something, that is what you do? The end result is somebody else's concern?
>
> THE WITNESS: You mean the end result of what happens in the pot?
>
> THE COURT: Yes.
>
> THE WITNESS: Well, what is my concern as a formulator is what goes into the pot, and realistically [what] is the performance result I get back after it is tested. Does this stuff work? . . .

(A1496-97).[11]

Accordingly, the district judge understood that lubricating oil formulators concern themselves with "what goes into the pot" and whether the composition so created works. (A1497). They do not try to describe chemically "the end result of what happens in the pot." (*Id.*)

In *Markman v. Westview Instruments, Inc.*, 64 U.S.L.W. 4263 (April 23, 1996), this Court recognized that patent claim construction often involves consideration of the testimony offered by persons skilled in the relevant art. *See, e.g., id.* at 4269 (stressing a judge's "trained ability to evaluate [such]

---

[11] Other evidence demonstrated that another Lubrizol employee, Mr. Pindar, whom Judge Nies described as "a person of skill in the art" (App. 31a), analyzed the claims of Exxon's European patent precisely as Exxon contended at trial they should be understood. He compared Lubrizol's products to Exxon's patent by analyzing the ingredients used to make the products, and concluded that virtually many of Lubrizol's products infringed that patent. (A1848-51; A11296-308).

testimony in relation to the overall structure of the patent"). The Federal Circuit's refusal even to acknowledge the testimony that was evaluated by the district judge in this case shows that its new approach applies to all composition of matter claims that only identify ingredients, without regard to the record developed at trial.

C. The Decision Below Will Have A Significant Disruptive Effect Both On Thousands Of Existing Patents And On Practice At The PTO.

As Judge Newman concluded below, the decision in this case is "gravely incorrect . . . as a matter of law, as a matter of chemistry, and as a matter of patent practice" and is "contrary to the way that chemical formulation composition claims are understood within the chemical and the legal communities." App. 71a, 74a. The disruptive effect of this decision should lead the Court to grant certiorari.

First, as Judge Newman explained, the decision will potentially make unenforceable "[m]any thousands of chemical patents [that] are written in the simple combination style" used by Exxon in this case. *Id.* at 72a. She reviewed a single issue of the PTO's Official Gazette, which lists the claims from every patent issued during the prior week, and found approximately 100 composition of matter patents having claims drafted in the same form as Exxon drafted its claims. *See id.* at 77a-78a. Just a few examples of such patents, issued during that week, are reproduced at App. 85a-94a. Employing the standard "ingredient-list" format used in the Exxon patent, each of these patents claims a particular type of composition (*e.g.*, a "sealing composition," a "dessert composition," a "breast tumor vaccine," etc.) "comprising" listed ingredients in specified amounts. *Id.* at 85a, 91a, 93a. Under the decision below, all such patents are subject to being rendered valueless by the lower court's new test for determining infringement. (The Court could confirm the impact of the Federal Circuit's

decision on existing patents by requesting the views of the Solicitor General, who could present the expert views of the PTO.[12])

Second, the Federal Circuit's decision will disrupt established practice at the PTO and create new difficulties in evaluating patent claims. As Judges Plager, Nies, and Newman all recognized, under the Federal Circuit's ruling in this case an inventor, who knows the ingredients entering into a composition but may be unable to describe their state within the composition, will be forced to use "product-by-process claims" to secure patent protection. App. 21a (Plager, J., concurring); *see also id.* at 33a (Nies, J., dissenting) *id.* at 82a, n.3 (Newman, J., dissenting as to denial of *en banc* rehearing).[13]

However, the PTO has long disfavored product-by-process claims, considering them to be of a "peculiar nature" and unwieldy in the patent examination process because "the [PTO] is not equipped to manufacture products by the myriad of processes put before it and then obtain prior art products and make physical comparisons therewith." Manual of Patent Examining Procedure § 2113, at 2100-31 (PTO Sept. 1995) (internal quotations omitted). (Again, the Court could confirm the implications of the decision below with respect to the

---

[12] Where federal agencies are given special roles under the statutory scheme, this Court frequently invites the Solicitor General to file an *amicus curiae* brief expressing the views of the government on certiorari petitions. *See, e.g., Novopharm, Inc. v. Burroughs Wellcome Co.*, 115 S. Ct. 2554 (1995) (patent case); *Bank One Chicago, N.A. v. Midwest Bank & Trust Co.*, 115 S. Ct. 1398 (1995) (banking case); *Asgrow Seed Co. v. Winterboer*, 114 S. Ct. 1535 (1994) (patent-related case under Plant Variety Protection Act).

[13] Of course, the availability of this approach in drafting new patents will not save the thousands of patents that have been drafted under the traditional approach.

PTO's award of future patents by requesting the views of the Solicitor General.)

Third, the decision below marks a major departure from the previously fundamental proposition that an inventor need not understand his invention in order to patent it. As this Court stated in *Eames v. Andrews*, 122 U.S. 40, 56 (1887), "[a]n inventor may be ignorant of the scientific principle, or he may think he knows it and yet be uncertain, or he may be confident as to what it is, and others may think differently. All this is immaterial, if by the specification the thing to be done is so set forth that it can be reproduced." *See also Diamond Rubber Co. v. Consolidated Rubber Tire Co.*, 220 U.S. 428, 435-36 (1911); *Newman v. Quigg*, 877 F.2d 1575, 1581 (Fed. Cir.), *modified on other grounds*, 886 F.2d 329 (Fed. Cir. 1989), *cert. denied* 495 U.S. 932 (1990); *Walker on Patents* § 10:15.

Under the Federal Circuit's new approach, this fundamental tenet of patent law no longer applies to thousands of composition of matter claims. Inventors who have disclosed the ingredients that are used to make new compositions will lose their patent protection to competitors (like Lubrizol) who read their patents and use precisely those ingredients to make competing products.

II. The Court Below Erred in Directing Entry Of Judgment Against Exxon On A Theory Never Advanced By Lubrizol.

In *Markman*, this Court held that there are two elements to a patent infringement case, "construing the patent and determining whether infringement occurred." 64 U.S.L.W. at 4267. It agreed with the Federal Circuit that the first is a question of law, to be determined by the court, and that the second is a question of fact to be submitted to a jury. But it reminded the courts that it is "essential to preserve the right to a jury's resolution of the ultimate dispute." *Id.* at 4265. In

this case Exxon was denied any opportunity to convince a jury that Lubrizol had infringed Exxon's patent as it has now been construed by the Federal Circuit.

Lubrizol's motions for JMOL under Rule 50 were based on the theory that Exxon was required to prove that Lubrizol's final products contain stated components in the requisite amounts. The court of appeals *agreed* that those motions were based on faulty legal analysis, terming Lubrizol's construction of Exxon's patent claims as only "partially correct" and being too "narrow" and "less generous" to Exxon than the court of appeals' "broader" construction.

As the panel majority stated, its construction, unlike Lubrizol's, was not limited to final products, but also included intermediate compositions during the manufacturing process. Thus, under the panel majority's approach, a new factual issue arose in the district court: whether any intermediate compositions that existed, as the ingredients were being mixed during Lubrizol's manufacturing process, contained ashless dispersant within the meaning of the patent claims as interpreted by the court of appeals. *See*, *supra*, p. 6, n.2. Exxon never had an opportunity to introduce evidence on that issue because it was not relevant under Exxon's theory that the patent claims listed ingredients used to make the composition nor on Lubrizol's theory that the patent claims listed substances as they exist in Lubrizol's final products. The award of judgment against Exxon without a remand conflicts with numerous cases interpreting Rule 50 as protecting a party's right to offer evidence to meet a new legal theory first articulated on appeal.

Under Rule 50(a), the district court may grant a motion for JMOL only if it is made "before submission of the case to the jury," and that motion "shall specify . . . the law and the facts on which the moving party is entitled to the judgment." Fed. R. Civ. P. 50(a)(2). Rule 50(a) thus affords the

nonmoving party "an opportunity to cure any deficiency in that party's proof that may have been overlooked until called to the party's attention by a late motion for judgment." Advisory Comm. Notes to 1991 Amendments (sixth paragraph, describing requirements of Rule 50(a)(2)). *See also* 9A Charles Alan Wright & Arthur R. Miller, *Federal Practice and Procedure* § 2533, at 309 (2d ed. 1995); *Quinn v. Southwest Wood Prods., Inc.*, 597 F.2d 1018, 1025 (5th Cir. 1979) (emphasis added):

> When a claimed deficiency in the evidence is called to the attention of the trial judge and of counsel before the jury has commenced deliberations, counsel still may do whatever can be done to mend his case. *But if the court and counsel learn of such a claim for the first time after verdict, both are ambushed and nothing can be done except by way of a complete new trial.*

Rule 50(b) permits a party to renew its motion for JMOL after the jury enters a verdict, but "the law is crystal clear" that such a motion may not assert a ground that was not included in the first motion. *Perdoni Bros. v. Concrete Systems, Inc.*, 35 F.3d 1, 3 (1st Cir. 1994); *see also Lambert v. Genesee Hospital*, 10 F.3d 46, 53-54 (2d Cir. 1993), *cert. denied*, 114 S. Ct. 1612 (1994); *Diercks v. Durham*, 959 F.2d 710, 714 (8th Cir. 1992); *Hinojosa v. City of Terrell*, 834 F.2d 1223, 1227-28 (5th Cir. 1988), *cert. denied*, 493 U.S. 822 (1989). For the same reason that "a party may not seek a [JMOL] on grounds not alleged in their motion for directed verdict, a district court may not enter a [JMOL] on grounds not asserted in a party's motion for directed verdict." *Murphy v. City of Long Beach*, 914 F.2d 183, 186 (9th Cir. 1990) (citing *Kutner Buick, Inc. v. American Motors Corp.*, 868 F.2d 614, 617 (3d Cir. 1989)).

Appellate courts are similarly limited in directing entry of judgment. "'[A]ppellate review may be obtained only on the

specific ground stated in the motion for [JMOL].'" *Perdoni Bros.*, 35 F.3d at 4 (quoting *Wells Real Estate, Inc. v. Greater Lowell Bd. of Realtors*, 850 F.2d 803, 810 (1st Cir.), *cert. denied*, 488 U.S. 955 (1988)); *see also Wright & Miller*, *supra*, § 2536, at 333. Thus, if a party fails to move for JMOL in the trial court, the court of appeals has no authority to enter judgment for the verdict loser. *Johnson v. New York, N.H. & H. R.R.*, 344 U.S. 48 (1952); *Cone v. West Virginia Pulp & Paper Co.*, 330 U.S. 212 (1947).

Accordingly, the way in which a party frames the issues in its Rule 50 motions in district court strictly limits the grounds upon which the party can seek the entry of judgment in a court of appeals.[14] Thus, the Federal Circuit was precluded by Rule 50 from granting Lubrizol's JMOL motion on a legal theory that, in Judge Nies' words, came from "out of the blue" because it was not articulated by Lubrizol in its JMOL motions. *See Cone*, 330 U.S. at 217-18; *Sulmeyer v. Coca Cola Co.*, 515 F.2d 835, 846 (5th Cir. 1975), *cert. denied*, 424 U.S. 934 (1976).[15]

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[14] Of course, the Federal Circuit was free to reject the claim construction offered by Exxon, even if it disagreed with Lubrizol, by declaring that the district judge had improperly instructed the jury on this issue. However, such a reversal should result in a remand to the district court for a new trial that gives the parties an opportunity to prove, as well as the jury an opportunity to decide, the case on the basis of proper instructions. *Hunt v. Liberty Lobby*, 720 F.2d 631 (11th Cir. 1983). *See also Pratico v. Portland Terminal Co.*, 783 F.2d 255 (1st Cir. 1985).

[15] Lubrizol presented no evidence that the jury was compelled to accept in support of its theory that it had not infringed Exxon's patent — *e.g.*, the jury could have rejected Lubrizol's argument that the dispersant became non-ashless "in the pot." *See*, *supra*, p. 6, n.2. Moreover, Exxon showed at the earliest possible opportunity, in its petition for rehearing in the court of appeals after receipt of the panel majority's opinion, that it could have introduced additional evidence proving infringement under the panel majority's new theory had it been apprised of that theory at trial by

The lower court's error in granting judgment for Lubrizol on a legal theory not argued in a Rule 50 motion was based on a misunderstanding of *Boyle v. United Technologies Corp.*, 487 U.S. 500 (1988), upon which it decisively relied. *See* App. 10a, 14a.[16] That case rejected Boyle's argument that he was deprived of a jury trial under the Seventh Amendment when the appellate court adopted a version of the government-contractor defense in a product liability action that "differed from the instructions given by the District Court to the jury." 487 U.S. at 513. Boyle's briefs to this Court, like the *Boyle* decision itself, did not even cite Rule 50, nor did Boyle argue that JMOL may not be directed by an appellate court on legal theories that differ from the ones presented in the JMOL motions filed in the district court.[17] Thus, the court of appeals clearly erred in reading this Court's rejection in *Boyle* of a Seventh Amendment argument as a license to disregard the requirements of Rule 50 which preclude entry of judgment on legal or factual claims that were not made in a pre-verdict motion for JMOL.

The Federal Circuit in this case applied its decision in *Markman v. Westview Instruments, Inc.*, 52 F.3d 967 (Fed. Cir. 1995), *aff'd*, 64 U.S.L.W. 4263 (April 23, 1996), and asserted the broad power to "independently construe the [patent] claim[s] to determine [their] correct meaning" and then to

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a timely Rule 50(a) motion. (Exxon Rehearing Petn. at 5).

[16] In all of the Federal Circuit cases relied upon by the panel majority, the party prevailing on appeal had asserted in its Rule 50 motions the legal theory subsequently adopted by the appellate court. *See Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533 (Fed. Cir. 1991) and cases discussed at App. 14a.

[17] Similarly, the Fourth Circuit's opinion in *Boyle*, 792 F.2d 413 (4th Cir. 1986), does not discuss Rule 50 nor give any indication that Boyle relied upon Rule 50.

"reverse the judgment below without a remand for a second trial" on a claim construction independently articulated by the Federal Circuit. App. 14a. Moreover, the lower court opined that only "in some cases" would one of the parties offer the "correct claim interpretation," while "[m]ore often" the court would have to do so itself. App. 5a. This indicates that *sua sponte* claim construction in the Federal Circuit without remand to the district court may become the rule, not the exception.

Having affirmed the Federal Circuit's decision in *Markman* that issues of claim construction are to be resolved as issues of law, this Court should grant Question 2 of this petition to ensure that the Federal Circuit does not extend its new claim-construction authority to deprive patent litigants of the opportunity to prove infringement to a properly instructed jury.

CONCLUSION

For the reasons stated above, the petition should be granted.

Respectfully submitted,

Charles Alan Wright
727 East 26th Street
Austin, TX 78705
(512) 471-7188

E. Edward Bruce*
Robert A. Long
John F. Duffy
COVINGTON & BURLING
1201 Pennsylvania Ave., N.W.
P. O. Box 7566
Washington, DC 20044-7566
(202) 662-6000

Attorneys for Petitioners

*Counsel of Record

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IN THE

Supreme Court of the United States

OCTOBER TERM, 1995

EXXON CHEMICAL PATENTS, INC.,
EXXON CORPORATION, AND
EXXON RESEARCH AND ENGINEERING CO.,

Petitioners,

v.

LUBRIZOL CORPORATION,

Respondent.

Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

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APPENDIX

Charles Alan Wright
727 East 26th Street
Austin, TX 78705
(512) 471-7188

E. Edward Bruce*
Robert A. Long, Jr.
John F. Duffy
COVINGTON & BURLING
1201 Pennsylvania Avenue, N.W.
P.O. Box 7566
Washington, DC 20044
(202) 662-6000

Counsel for Petitioners

* Counsel of Record

May 1996

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United States Court of Appeals for the Federal Circuit

93-1275, 94-1309

EXXON CHEMICAL PATENTS, INC., EXXON CORPORATION and EXXON RESEARCH AND ENGINEERING CO.,

Plaintiffs-Appellees,

v.

LUBRIZOL CORPORATION,

Defendant-Appellant.

DECIDED: September 1, 1995

Before Nies, Plager, and Clevenger, *Circuit Judges*.

Opinion for the court filed by Circuit Judge CLEVENGER, with whom Circuit Judge PLAGER joins. Concurring opinion filed by Circuit Judge Plager. Dissenting opinion filed by Circuit Judge Nies.

CLEVENGER, *Circuit Judge*.

Lubrizol Corporation (Lubrizol) appeals the February 5, 1993 judgment of the United States District Court for the Southern District of Texas, Houston Division, *inter alia* holding that U.S. Patent No. 4,867,890 assigned to Exxon Chemical Patents, Inc. (Exxon) is not invalid under 35 U.S.C. § 102 or § 103 (1988) and is enforceable, and that Lubrizol willfully infringed the claims of the '890 patent. We reverse

the judgment of infringement.[1] We vacate the award of attorneys' fees and costs to Exxon, the injunction entered against Lubrizol, and the damage award entered on February 15, 1994.

I

After extensive discovery, this patent infringement case was tried to a jury. Following the jury's verdict of willful infringement, the judge concluded that the case was exceptional under 35 U.S.C. § 285 (1988) and awarded Exxon its attorneys' fees and costs. Lubrizol's post trial motion for judgment as a matter of law or for a new trial was denied by the judge, and Lubrizol timely brought this appeal. We have jurisdiction under 28 U.S.C. § 1295(a)(1) (1988).

The central issue in this appeal is claim interpretation. Exxon's claims are to a lubricating oil composition suitable for use as a crankcase lubricant in internal combustion engines. The claimed composition is defined as comprising — meaning containing at least — five specific ingredients. Exxon contends that its patent claims a "recipe" of ingredients that extends to any product made by using the claimed ingredients, even if the product itself — as a result of chemical complexing — fails to include one of the claimed

---

[1] The judgment is limited to literal infringement of Exxon's claims. The jury was charged solely with respect to literal infringement, directly or by inducement or contribution, and whether such literal infringement was willful. Although Exxon initially proposed a jury charge on infringement under the doctrine of equivalents, its counsel consented to the deletion of the doctrine of equivalents from the infringement charge given to the jury. Lubrizol's brief notes that "Exxon asserted only literal infringement", and Exxon does not contest that statement. The dissenting opinion raises a question of whether Exxon is now entitled to a jury trial on infringement under the doctrine of equivalents. That issue was not briefed or argued to the panel, and consequently we, unlike Judge Nies, express no view on that question.

ingredients. Lubrizol argues that since Exxon claims a composition *product* — not a process for making a product or a product made by a claimed process — the '890 patent only extends to final products that include the specified claimed ingredients.

The trial judge, candidly expressing considerable difficulty in understanding the chemistry and law involved in the case, treated the issue of claim interpretation as a matter of deciding which of the two parties offered the correct meaning of the claims. The jury was charged according to Exxon's preferred claim interpretation.

The duty of the trial judge is to determine the meaning of the claims at issue, and to instruct the jury accordingly. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 970 (Fed. Cir. 1995). In the exercise of that duty, the trial judge has an independent obligation to determine the meaning of the claims, notwithstanding the views asserted by the adversary parties. The pursuit of that obligation in this case would have resulted in a determination that Exxon's preferred claim interpretation is incorrect, and that Lubrizol's is only partly correct. As we explained below, under a jury charge stating the correct interpretation of the claims, no jury could reasonably have found — on the evidence submitted by Exxon — that Lubrizol's accused products literally infringe Exxon's claims. Because of Exxon's failure of proof, Lubrizol is entitled to judgment as a matter of law. *See Zenith Labs., Inc. v. Bristol-Myers Squibb Co.*, 19 F.3d 1418, 1424, 30 USPQ2d 1285, 1290 (Fed. Cir. 1994). Accordingly, we reverse the final judgment on liability entered on the jury verdict and vacate the order awarding attorneys' fees and costs and the injunction entered against Lubrizol. The judgment of the District Court which is the subject of Lubrizol's

companion appeal challenging the award of damages is vacated.[2]

II

Exxon and Lubrizol manufacture crankcase lubricating oil compositions and concentrate compositions which are mixed with oil basestock to produce lubricating oils for motor vehicle engines. Such products typically contain the following components as additives: (1) a dispersant, which suspends impurities to prevent sludge and varnish deposits on engine parts, (2) ZDDP, a zinc-containing compound that inhibits engine wear and produces antioxidant results for the oil, (3) a detergent, which helps prevent engine deposits, and (4) a supplemental antioxidant, necessary because use of ZDDP is limited by environmental concerns. Oxidation of the oil component substantially shortens the life of lubricating oils. Oxidation results in increased acidity of the lubricant, which can enhance corrosion of engine parts and increases viscosity of the product, thereby degrading its lubricant qualities.

Exxon's '890 patent seeks enhanced antioxidant results by the addition of a small amount of copper as the supplemental antioxidant to the other typical ingredients of the product. The prosecution history of Exxon's patent emphasized the beneficial synergistic effects caused by the added copper when in the presence of an ashless dispersant.

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[2] The issue of damages was reserved for trial after the trial on liability. The damage award against Lubrizol entered on February 15, 1994, is appealed in No. 94-1309, oral argument in which was heard on March 8, 1995. We have consolidated the appeal in No. 94-1309 with the appeal in No. 93-1275. In light of our reversal of the liability judgment against Lubrizol, no basis remains for a damage judgment against Lubrizol, and we therefore vacate the damage judgment entered in this case.

III

We have recently concluded in banc that claim interpretation is a matter of law, and that the trial judge alone has the duty and responsibility to interpret the claims at issue. *Markman*, 52 F.3d at 970. After close of the evidence in this case, the judge heard argument from the parties on the meaning of Exxon's claims. During that argument, Lubrizol argued that the meaning of the claims should be left to the jury for decision, if the court failed to agree with Lubrizol's preferred claim interpretation. The judge correctly refused to submit the issue to the jury, and instead decided which of the two proffered interpretations seemed most correct. It may well be that in some cases one side or the other will offer the correct claim interpretation to the judge. More often, however, it is likely that the adversaries will offer claim interpretations arguably consistent with the claims, the specification and the prosecution history that produce victory for their side. In any event, the judge's task is not to decide which of the adversaries is correct. Instead the judge must independently assess the claims, the specification, and if necessary the prosecution history, and relevant extrinsic evidence, and declare the meaning of the claims. No matter when or how a judge performs the *Markman* task, on appeal we review the issue of claim interpretation independently without deference to the trial judge.

IV

Representative of the claims of the '890 patent, claim 1 is directed to "[a] lubricating oil composition suitable as a crankcase lubricant in internal combustion engines comprising" (1) a major amount of lubricating oil, (2) an ashless dispersant (*i.e.* one that neither contains nor is complexed with metal) in specified amounts of "about 1 to 10 wt. %", (3) from about 0.01 to 5.0 parts by weight of oil soluble ZDDP, (4) 5 to 500 parts per million by weight of

added copper in the form of an oil soluble copper compound, and (5) magnesium or calcium detergent.[3]

The subject of claim interpretation was argued to the judge at the close of Exxon's case and was considered again in extensive argument at the close of all the evidence. At the conclusion of the arguments, the judge decided that Exxon was correct in its view of the claims' meaning. The parties did not contend that the claims of the '890 patent are process claims drawn to a specified manner of manufacture, and the claims as written could not have such meaning. Nor are the claims said to be, or could they be, product-by-process claims. The claims of the '890 patent are drawn to a particular composition: they are product claims. According to Exxon, its claims cover any product that is made by using the specific ingredients identified in the limitations of claim 1.[4] During the trial, Exxon's claims were thus said to be to a "recipe" for

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[3] The full text of claim 1 is set forth in the appendix to this opinion. Claim 61 of the '890 patent is drawn to a lubricating oil concentrate composition suitable for use in preparing crankcase lubricants. That claim, like claim 1, has specific quantity limitations for the ingredients, including the ashless dispersant ingredient. However, claim 61 does not require a "major amount" of lubricating oil (it requires "a lubricating oil," without specific amount), and it requires 10 to 60 wt. of ashless dispersant. Both claims were submitted to the jury.

[4] If the claim is defined solely by the starting ingredients, a product actually containing all the specified ingredients would seem to escape at least literal infringement if produced by the combination of different ingredients. Such is at odds with the doctrine that a product claim is infringed by any product containing every claim limitation, regardless of how the product is made. *See Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1535, 19 USPQ2d 1367, 1369 (Fed. Cir. 1991); *see also* 2 Donald S. Chisum, *Patents* § 8.05, at 8-79 (1994) (collecting cases). Under Exxon's view, its claims also would seem not to reach a product made with a nonashless dispersant starting ingredient that is somehow rendered ashless during manufacture, if such a rendering is chemically possible.

making the composition. Whether the specified ingredients could be found in the actual composition produced by mixing the ingredients is, according to Exxon, simply irrelevant to the meaning of the claims. To emphasize this point, Exxon's counsel stated — both to the trial judge and this court — that Exxon's claims will cover a composition that has the added copper regardless of whether any ashless dispersant can be found in the mixture. In short, in Exxon's view the claimed "recipe" for making the claimed product *is* the claimed product.

The trial judge charged the jury accordingly:

> I instruct you that Exxon's claims cover the ingredients which go into the composition. If you find that Exxon has proved that a Lubrizol product is made by using the starting ingredients in the amounts called for in one or more of Exxon's claims, then that product directly infringes.

The issue of claim interpretation has been raised first by Lubrizol in its motion for a directed verdict at the close of Exxon's case, which the judge denied. The issue was raised again by Lubrizol's motion for judgment as a matter of law at the close of all the evidence, also denied by the judge. The charge to the jury on claim interpretation was also challenged by Lubrizol, both before the case was submitted to the jury and by the post trial motion for judgment as a matter of law.

As noted above, Exxon's claims are drawn to a specific product which has particularly defined ingredients. Nothing in the claims, the specification, or the prosecution history suggests that Exxon's claims are not drawn to a product that contains particular ingredients. Indeed, to the contrary, the title to the '890 patent reads, with the emphasis added, "Lubricating Oil Compositions *Containing* Ashless Dispersant, [ZDDP], Metal Detergent and a Copper Compound". *See Titanium Metals Corp. of Am. v. Banner*, 778 F.2d 775, 780,

227 USPQ 773, 777-78 (Fed Cir. 1985) (referring to patent's title as interpretative aid). The language of claim 1 refers to "added" copper and to a detergent "additive." The specification demonstrates that those claim references aim at a chemical composition to which ingredients are being introduced. We must give meaning to all the words in Exxon's claims. *In re Sabatino*, 480 F.2d 911, 913, 178 USPQ 357, 358 (CCPA 1973) ("Claim limitations defining the subject matter of the invention are never disregarded.") In addition, the text of the '890 specification includes over twenty references to "containing" in reference to the ingredients claimed in the composition. Furthermore, during prosecution of the applications that resulted in the '890 patent, Exxon repeatedly emphasized that the genius of its invention lay "in the *previously unknown* synergism of this material [copper] with ZDDP in the presence of an ashless dispersant of the type described in the application...."

In sum, a review of the claims, the specification, and the prosecution history all point to the conclusion that Exxon claims a product, not merely a recipe for making whatever product results from the use of the recipe ingredients. This conclusion respects that which is claimed, namely a chemical composition. The chemical composition exists at the moment the ingredients are mixed together. Before creation of the mixture, the ingredients exist independently. The particular proportions specified in the claims simply define the characteristics of the claimed composition.

Under Lubrizol's view of the claims, as asserted at trial and on appeal, the composition claimed by Exxon is limited to the final product made and ready for use in the engine environment. Lubrizol is correct that the claims read on a product, not simply a recipe, but Lubrizol errs in thinking that the claims read only on end product compositions. Lubrizol thus asserts a claim meaning that depends upon the time at which one views the composition claimed. The specification

as a whole, and the claims in particular, contain no temporal limitation to the term "composition." Indeed, claim 61 reads on a concentrate for preparing lubricants, which is hardly a product ready for consumer end use. The composition of claim 1, once its ingredients are mixed, is a composition existing during manufacture that is being used to produce the end product. Consequently, as properly interpreted, Exxon's claims are to a composition that contains the specified ingredients at any time from the moment at which the ingredients are mixed together. This interpretation of Exxon's claims preserves their identity as product claims, and recognizes as a matter of chemistry that the composition exists from the moment created. Although Lubrizol is correct in taking Exxon's claims to read on a product, its interpretation of Exxon's claims is too narrow. Exxon is entitled to a broader scope that is not time-limited, one that reads on any product at any time that contains the claimed proportions of ingredients. The correct interpretation simply affords Exxon a wider range of product on which to assert infringement. Indeed, Exxon even took advantage of the correct interpretation during trial. When defending its case under Lubrizol's claim interpretation, Exxon did not introduce evidence that Lubrizol's final product infringed. Instead of offering evidence that analyzed the components of Lubrizol's final product, Exxon's witnesses testified to the reaction that occurs when the Lubrizol product is in the process of being made into the final product. According to Exxon's witnesses, that reaction did not result in complete elimination of ashless dispersant in the product. Exxon thus did not focus on Lubrizol's final product to prove infringement. Exxon adopted the broader view and described the infringing activity as occurring while the claimed ingredients were undergoing chemical reactions, necessarily a time before the final product, ready for sale, exists.

We thus hold that the judge erred as a matter of law in giving Exxon's preferred claim interpretation to the jury, and in using that interpretation in ruling on Lubrizol's post trial motion. Under the proper charge, the jury would not have been asked if Lubrizol used Exxon's starting ingredients. Instead, the jury would have been asked to find whether Exxon had proved by a preponderance of the evidence that Lubrizol's products at some time contained each of the claimed recipe ingredients in the amounts specifically claimed.

V

Given the correct interpretation of Exxon's claims, the dispositive question before us is whether any jury could reasonably have found that Lubrizol's accused products literally infringe the claims of the '890 patent as properly construed. *Jamesbury Corp. v. Litton Indus. Prods.*, 756 F.2d 1556, 1560-61, 225 USPQ 253, 257 (Fed. Cir. 1985). Our authority to decide this question has been explicitly stated by the Supreme Court:

> If the evidence presented in the first trial would not suffice, as a matter of law, to support a jury verdict under the properly formulated defense, judgment could properly be entered for the respondent at once, without a new trial. And that is so even though (as petitioner claims) respondent failed to object to jury instructions that expressed the defense differently, and in a fashion that would support a verdict.

Boyle v. United Technologies Corp., 487 U.S. 500, 513-514 (1988). Lubrizol thus may be entitled to judgment as a matter of law. *Id.* "The question of whether the evidence is sufficient to create an issue of fact for the jury is itself a question of law, which we will now decide." *Jamesbury*, 756 F.2d 1560, 225 USPQ at 257. Literal infringement requires that every limitation in Exxon's claims be found in the accused product. *Laitram*, 939 F.2d at 1535, 19 USPQ2d at

1369. Exxon's burden is thus to prove by a preponderance of the evidence, among other things, that Lubrizol's products contained at some time ashless dispersant in the amounts specifically claimed.

From the beginning of the trial, Exxon was on notice that Lubrizol's view of claim interpretation required Exxon to prove that Lubrizol's products contained ashless dispersant in the amounts specified. Exxon was also aware from discovery that Lubrizol would defend against the charge of infringement by proof that its products as manufactured contained no ashless dispersant. Exxon thus had the choice of simply proving infringement under *its* view of the claims, or in addition proving infringement under Lubrizol's view as well. Exxon chose to do both. Lubrizol's defense on its view of the claims is based on its evidence that, when one mixes the ingredients specified in Exxon's claims, (1) the soluble copper compound reacts with ZDDP to form a zinc compound and CuDDP and (2) zinc then bonds to the formerly ashless dispersant to render it non-ashless, inasmuch as, after the reaction, it is complexed with a metal. According to Lubrizol, the reactions are immediate and the bond formed between the dispersant and zinc is firm, and as a result, its product lacks the ashless dispersant specified as a necessary ingredient in Exxon's claims.

At trial, Exxon sought to prove its case, under Lubrizol's claim interpretation, with testimony that the bond formed between the zinc and the dispersant was a weak one. The bond was described as unstable, with the molecules bonding, unbonding and rebonding constantly. The process was described variously as analogous to square dance with partners swapping around, to hand-holding and unholding, and to hats being taken on and off. The bonding and unbonding, also described as a "dynamic equilibrium," occurs an infinite number of times. According to Exxon, the weak bond — with its constant reversal and rebonding — proved that

Lubrizol's dispersant was not always nonashless, and therefore sometimes ashless. Exxon's proof was supplied by expert opinion and did not include any scientific measurements resulting from tests of Lubrizol's accused products. Exxon's proof did not relate to infringement by Lubrizol's *final* products. Instead, its proof was aimed at the presence of ashless dispersant during manufacture of the end product.

Lubrizol's expert witnesses countered with their opinion that the bond created between the zinc and the dispersant was a strong complex, and that the dispersant remained non-ashless 99.999% of the time. The testimony of Lubrizol's witnesses relied on nuclear magnetic resonance tests performed by Lubrizol on its products, and concluded that there is no ashless dispersant in Lubrizol's accused products after blending their starting ingredients.

We may assume for purposes of this appeal that a jury hearing such evidence could reasonably have concluded that — at some time — during the manufacture of the product or in its manufactured state — ashless dispersant is found in Lubrizol's product.[5] That assumption, however, is not dispositive of Lubrizol's post trial motion for judgment as a matter of law. It is not enough for Exxon to prove that *some* of the dispersant in Lubrizol's product is ashless even if

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[5] On the record before this court, it is not clear that the trial judge meant for the jury to consider the testimony about the nature of the bond between the zinc and the ashless dispersant. In discussions with counsel, the judge stated clearly that he would charge the jury as Exxon wanted, and under Exxon's view of the claims what "happens in the pot" during or after manufacture of the composition, and Lubrizol's nuclear magnetic resonance evidence, is simply irrelevant. Under the claim interpretation charge given, there was no reason for the jury to consider the evidence of both parties going to whether Lubrizol infringes under its view of the claims. To find infringement as charged, all the jury had to find is that Lubrizol used Exxon's claimed starting ingredients in the amount claimed, an essentially uncontested fact.

momentarily. Lubrizol's motion is only thwarted if Exxon has supplied testimony from which a reasonable jury could conclude that Lubrizol's products contain ashless dispersant in the specific amounts claimed. Exxon offered no testimony on the amounts of ashless dispersant present *in* Lubrizol's products. Nor did Exxon provide the jury with direct evidence from which it could have inferred that the required percentages are found in the composition after it is created out of its specified starting ingredients. In its briefs to this court, Lubrizol emphasized Exxon's failure of proof with regard to the quantities of the ingredients contained in the accused products. Exxon did not respond with assertions that the record included proofs of the *quantities* of ingredients present in the accused products. Instead, Exxon argued only that "Lubrizol started with the requisite amount of ashless dispersant and, even under its theory, ashless dispersant is still present in Lubrizol's final product, albeit in ever-changing form." In order to prevail under properly interpreted claims, Exxon was obliged to prove both the presence of ashless dispersant and presence of the required quantity. Exxon's failure as to the latter requires us to conclude as a matter of law in Lubrizol's favor.

Post-trial motion practice entails, *inter alia*, ascertainment of whether correct law has been applied to the facts presented at trial in reaching a verdict or judgment. When a trial judge determines on a post-verdict motion what the law correctly is, the judge then determines whether any juror could reasonably have reached — on the evidence presented at trial — the verdict challenged by the post-verdict motion. If the answer is no, the trial judge reverses the jury verdict for failure of proof on the correct legal standard, and denies the loser a second trial on the correct law. That is what happened at trial in *Markman*, and we affirmed that disposition *in banc*, 52 F.3d 967, 989.

When we determined on appeal, as a matter of law, that a trial judge has misinterpreted a patent claim, we independently construe the claim to determine its correct meaning, and then determine if the facts presented at trial can support the appealed judgment. If not, we reverse the judgment below without remand for a second trial on the correct law. That is what we did to the bench trial in *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1539 (Fed. Cir. 1991), citing as support the very language from the Supreme Court decision in *Boyle* that we rely upon herein to deny Exxon the second trial that Judge Nies would provide. We ordinarily do the same thing in the appellate review of jury trial cases, typically explaining our duty as follows:

> Accordingly, we must determine whether there exists evidence of record upon which a jury might properly have returned a verdict in Litton's favor when the correct legal standard is applied. If there is not, Jamesbury was entitled to have the question removed from the jury and decided as a matter of law.

Jamesbury Corp. v. Litton Indus. Prods., Inc., 756 F.2d 1556, 1560 (Fed. Cir. 1985). *See also Dana Corp. v. IPC Ltd. Partnership*, 860 F.2d 415, 419 (Fed Cir. 1988). Such judicial events are not extraordinary.

On the facts of this case, we perceive no reason to deviate from, or reject, the settled law that compels reversal. The correct meaning of Exxon's claims is but a slight variance from that urged vigorously and continuously by Lubrizol. That Lubrizol sought to hold Exxon to proof of infringement of *product* claims hardly comes, or came, out of the blue. Exxon was fully aware that Lubrizol stood on a claim meaning that would require Exxon to prove the presence of specified amounts of claimed ingredients in *some* Lubrizol product. In fact, Exxon attempted to prove infringement under the interpretation we give to its claims. We have noted that

Exxon chose not to introduce proofs of the contents of Lubrizol's *final* products. Rather, its proof of the presence of some ashless dispersant, evidence that we credit in testing the denial of the post verdict motion, relates to product in pre-final states. Nothing precluded Exxon from arguing and seeking to prove that *a* Lubrizol product, at some time after its creation, contained the specified ingredients in the claimed amounts. We have emphasized that Exxon's error was in failure of proof as to the claimed amounts, without which it could not prove infringement under Lubrizol's claim meaning. The trial judge did not interpret the claims until all the evidence was in, just before the case was submitted to the jury. Exxon — knowing Lubrizol's defense — knew that it would lose on Lubrizol's claim meaning unless it could show the presence of the claimed ingredients in the claimed amounts in some Lubrizol product. Exxon was free to choose the amount at which it would identify with proof that a Lubrizol product infringed. Thus, Exxon could have argued and sought to prove that ashless dispersant is present in the claimed percentages, along with the other claimed ingredients in their specified amounts, at any time from the moment of creation of Lubrizol's product. Exxon cannot now claim surprise from our variation on Lubrizol's claim meaning and cry foul in not having a second chance to prove what it was free to prove at trial. Consequently, on the facts of this case, we discern no reason to carve an exception into the settled law in order to provide Exxon an opportunity to escape from the flaws in its claim drafting (as described in Judge Plager's concurring opinion) and trial strategy. We therefore disagree with Judge Nies's view that our reversal without remand for a second trial is improper.[6]

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[6] *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565 (Fed. Cir. 1986), and *Malta v. Schulmerich Carillons, Inc.*, 952 F.2d 1320 (Fed. Cir. 1991), do not stand in the way of our decision. Each case

raised the question whether a party seeking to upset a jury verdict on a post verdict motion had failed to preserve the ground for the post verdict motion by failing to specify that ground in earlier directed verdict motions. In *Orthokinetics*, the specific question was whether a motion for directed verdict of simply non-infringement embraced a later post verdict motion seeking to upset a jury verdict of willful infringement. The trial court had granted the motion, holding the evidence insufficient to support a jury verdict of willful infringement. This court concluded that the movant had failed to preserve the issue of willful infringement for the post verdict motion. 806 F.2d at 1579. This court, however, did not reverse the grant of the post verdict motion for failure to have preserved its ground. Indeed, this court did not conclude that the district court was even required to reject the post verdict motion. We only noted that the "district court might well have refused consideration of willfulness on the motion for JNOV in light of Rule 50(b)." *Id.* at 1580. Dispositively, this court held the ruling on the post verdict motion ripe for appellate review because the non-movant had not objected to the grounds stated in the post verdict motion.

It is difficult to understand how *Orthokinetics* in Judge Nies's hands helps the cause she advocates for Exxon. This is so because *Orthokinetics* teaches that even a legally insufficient post verdict motion may be acted upon by the trial judge with that action preserved for appellate review, if the non-movant has not objected to the content of the post verdict motion. We note, in passing, that Exxon did not object to the content of Lubrizol's post verdict motion.

Malta sheds interesting light on what can be devined from *Orthokinetics*. In *Malta*, the question was whether a barebones motion for directed verdict, at the close of all the evidence, of noninfringement "on the grounds that the evidence is insufficient." 952 F.2d at 1324, was sufficient to support a post verdict motion challenging the verdict of infringement under the doctrine of equivalents for lack of "particularized function/way/result testimony and linking argument." *Id.* at 1325. This court concluded that the earlier general motion of noninfringement embraced all the particular arguments in support of the post verdict motion. In the light of *Malta*, we cannot fault the failure of Lubrizol, in its post verdict motion, to have argued that Exxon could prove infringement under Lubrizol's theory by proving not only that Lubrizol's *final* product infringed, but that *any* product made by Lubrizol that existed after the moment of creation also could infringe. Indeed, the spread between the general and the specific in *Malta* is enormous, compared to the

Because Lubrizol is entitled to a judgment of noninfringement as a matter of law and thus to vacation of the order awarding Exxon its attorneys' fees and costs and of the injunction entered against Lubrizol, we need not reach the other grounds asserted by Lubrizol for reversal of the judgment of infringement or in the alternative for a new trial. Because there is no basis for a damage award against Lubrizol, we vacate the damage award in appeal No. 94-1309.

No costs.

REVERSED

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distance between the meaning we give Exxon's claims on appeal and that advanced by Lubrizol to the trial judge. Lubrizol's view of the claims is less generous to Exxon than ours. If only Lubrizol's *final* product could infringe Exxon's claims, Exxon's proofs fail completely since it produced no evidence of the content of any Lubrizol *final* product. Only under the interpretation we give Exxon's claims does Exxon's evidence of infringement of a product claim have any relevance. This is so because the only evidence Exxon put on to show the presence of ashless dispersant in a Lubrizol product was evidence of the reaction that occurs during the manufacture of the Lubrizol final product. This evidence was offered when Exxon did not know if the trial court would accept its, or Lubrizol's proffered claim interpretation. Exxon thus focussed on a product of Lubrizol that was not its final product, but, as we have noted, Exxon fell short of demonstrating that the ashless dispersant, when present, was present in the claimed amounts.

APPENDIX

Claim 1 of the '890 patent reads as follows:

1. A lubricating oil composition suitable as a crankcase lubricant in internal combustion engines comprising:

A. a major amount of lubricating oil;

B. a dispersing amount of lubricating oil dispersant selected from the group consisting of:

(1) ashless nitrogen or ester containing dispersant compounds selected from the group consisting of:

(a) oil soluble salts, amides, imides, oxazolines, esters, and mixtures thereof, of long chain hydrocarbon substituted mono- and dicarboxylic acids or their anhydrides;

(b) long chain aliphatic hydrocarbons having a polyamine attached directly thereto; and

(c) Mannich condensation products formed by condensing about a molar proportion of long chain hydrocarbon substituted phenol with from about 1 to 2.5 moles of formaldehyde and from about 0.5 to 2 moles of polyalkylene polyamine; wherein said long chain hydrocarbon group is a polymer of a C_2 to C_5 monoolefin, said polymer having a molecular weight of from about 700 to about 5000;

(2) nitrogen or ester containing polymeric viscosity index improver dispersants which are selected from the group consisting of:

(a) polymers comprised of C_4 to C_{24} unsaturated esters of vinyl alcohol or of C_3 to C_{10} unsaturated mono- or dicarboxylic acid with unsaturated nitrogen containing monomers having 4 to 20 carbons,

(b) copolymers of C_2 to C_{20} olefin with C_3 to C_{10} mono- or dicarboxylic acid neutralized with amine, hydroxy amine or alcohols, and

(c) polymers of ethylene with a C_3 to C_{20} olefin further reacted either by grafting C_4 to C_{20} unsaturated nitrogen containing monomers thereon or by grafting an unsaturated acid onto the polymer backbone and then reacting said carboxylic acid groups with amine, hydroxy amine or alcohol; and

(3) mixtures of (1) and (2); wherein when said lubricating oil dispersant (1) is present, then said dispersing amount of (1) is about 1 to 10 wt. %, and when said lubricating oil dispersant (2) is present, then said dispersing amount of (2) is from about 0.3 to 10 wt. %;

C. from about 0.01 to 5.0 parts by weight of oil soluble zinc dihydrocarbyl dithiophosphate wherein the hydrocarbyl groups contain from 1 to 18 carbon atoms;

D. an antioxidant effective amount, within the range of from about 5 to about 500 parts per million by weight, of added copper in the form of an oil soluble copper compound; and

E. a lubricating oil detergent additive which comprises at least one magnesium or calcium salt of a material selected from the group consisting of sulfonic acids, alkyl

phenols, sulfurized alkyl phenols, alkyl salicylates and naphthenates, wherein said parts by weight are based upon 100 parts by weight of said lubricating composition and said weight % is based on the weight of said lubricating composition.

PLAGER, *Circuit Judge*, concurring.

I join in the reversal of the trial court's judgment of infringement, based on what I consider to be the correct claim interpretation as advanced by Judge Clevenger, and the consequences that flow therefrom.

There is testimony in the record that indicates that it is not known exactly how the chemical complexing, described in the opinion, actually works. If this is so, then Exxon's burden, to prove that the chemical ingredients exist at some point in the accused composition in the claimed proportions, may be impossible of accomplishment. That could be said to argue in favor of an alternative construction of the claims, that what was meant was a process or product-by-process claim.

The difficulty with that argument is that the claims, as the opinion well demonstrates, are unquestionably composition of matter claims. In retrospect, it would appear that Exxon wishes it had product-by-process claims, and thus a "recipe." But we are not free to read the claims as they might have been drafted, even if as drafted they do not accomplish what the inventor may have intended.

Claim drafting is itself an art, an art on which the entire patent system today depends. The language through which claims are expressed is not a nose of wax to be pushed and shoved into a form that pleases and that produces a particular result a court may desire. The public generally, and in particular, the patentee's competitors, are entitled to clear and specific notice of what the inventor claims as his invention. That is not an easy assignment for those who draft claims, but the law requires it, and our duty demands that we enforce the requirement. There is no room in patent claim interpretation for the equivalent of the *cy pres* doctrine; that would leave the claiming process too indefinite to serve the purposes which lie at the heart of the patent system.

NIES, *Circuit Judge*, dissenting.

Contrary to conventional wisdom in the art, Exxon discovered that small amounts of copper in automobile motor oil acts as an antioxidant, and it developed a highly successful commercial product using that discovery. The record discloses that Lubrizol learned of the presence of copper in Exxon's motor oil from Exxon's U.K. patent application and used the disclosure to prepare a competitive product. Both companies now use copper in the vast majority of their passenger car motor oil formulations. Following this phase of the litigation finding Lubrizol liable for infringement of Exxon's U.S. Patent No. 4,867,890, Exxon was awarded $48,000,000 in damages which were doubled for willfulness and $8,700,000 in interest plus $23,700,000 in attorney fees.[1]

The issue of infringement essentially comes down to whether Exxon drafted a claim in its U.S. patent that covers its invention. The majority interprets the claims to require that each of the listed additives to a motor oil must retain its pre-mix identity, to the extent that each must be present in the claimed proportions at some point after mixing. Because Exxon failed to prove that the additives remained identifiable (in those proportions) in Lubrizol's product at some time during or after mixing, the majority reverses the judgment of infringement. I agree with the trial court that Lubrizol infringes. Lubrizol's motor oil contains the required additives in the required amounts. To hold that the final product does not "comprise" those ingredients because of their possible reaction with each other upon mixing seems to me nothing short of double speak. The claims can be interpreted as the majority does only by reading them in isolation from the context of the patent. Moreover, the majority's interpretation

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[1] Appeal No. 94-1309 challenging the amount of damages is mooted by the majority decision.

gratuitously provides grounds for invalidation of the patent under section 112, because the specification does not describe nor enable one skilled in the art to make a product containing the claimed ingredients in the claimed amounts except as starting ingredients, not mixed ingredients.[2]

The majority focuses principally on the claimed "ashless dispersant" which must remain in its view "ashless" in the required amount in the composition. I interpret "ashless dispersant" as simply the name or designation of an ingredient required as one of the additives. It does not mean the ingredient must remain inert.

As stated in *Adams v. United States*, 383 U.S. 39, 49, 148 USPQ 479, 482 (1966), "it is fundamental that claims are to be construed in light of the specifications and both are to be read with a view to ascertaining the invention." Moreover, claims should be "construed, if possible, as to sustain their validity." *North American Vaccine, Inc. v. American Cyanamid Co.*, 7 F.3d 1571, 1577, 28 USPQ2d 1333, 1337 (Fed. Cir. 1993).

Applying those precepts warrants an affirmance in this case. My concern is, however, not merely this case. The majority mandates technical rules for how chemical compositions must be claimed which I reject.

I.

Infringement here turns on interpreting claims 1 and 61. Claim 1 is directed to "a lubricating oil composition"

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[2] Paragraph 1 of 35 U.S.C. § 112 (1988) states, in relevant part: "The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains or with which it is most nearly connected, to make and use the same...."

comprising: (a) a major amount of lubricating oil; (b) a specified amount of dispersant (either about 1-10 wt. percent of an ashless dispersant[3] or about 0.3-10 wt. percent of a "polymeric viscosity index improver"[4]); (c) about 0.01 to 5.0 parts by weight of zinc dihydrocarbyl dithiophosphate ("ZDDP"); (d) about 5 to about 500 parts per million by weight of added copper in the form of an oil soluble copper compound; and (e) a calcium or magnesium detergent. Claim 61 claims a "lubricating oil concentrate composition" comprising the same five ingredients in different, specified amounts.

The trial judge interpreted those claims for the jury, instructing them as follows:

> I instruct you that Exxon's claims cover the ingredients which go into the composition. If you find that a Lubrizol product is made by using the starting ingredients in the amounts called for in one or more of Exxon's claims, then that product directly infringes.

Lubrizol argues that that instruction is wrong. It maintains that, regardless of what ingredients are mixed together, there is infringement only if the final lubricant composition contains the five claimed ingredients, in the

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[3] "Ashless" denotes an absence of combined or complexed metal. Lubrizol's Dr. Salomon testified that "it is easier from a manufacturing point of view to manufacture it in the ashless form." She added that "[a]s a formulator, I don't care [if it is ashless or non-ashless in the product] where I have some surprising discovery that affects performance. But it doesn't matter to me.... Typically, most dispersants are made ashless from a manufacturing point of view."

[4] The polymeric viscosity index improver ("PVII") is not at issue here, inasmuch as the challenged Lubrizol products are alleged to use the ashless dispersant, not the PVII. Henceforth, this opinion will not mention PVII.

claimed amounts. Thus, although it is essentially uncontested that Lubrizol adds ashless dispersant and the other claimed ingredients in the claimed amounts to its motor oil, Lubrizol argues that there is no infringement because it was not proved that "ashless" dispersant, in the claimed amount, was present in its *final* products. Specifically, it urges, the ashless dispersant that it uses in admixture with the other ingredients specified in the claims complexes with metal moieties from those ingredients so that the dispersant in the final product can no longer be considered "ashless."

Exxon, on the other hand, urges that the trial judge's instruction reflects the proper claim interpretation that ashless dispersant identifies a starting ingredient, and under that interpretation, it does not matter what complex forms between metal and the dispersant.

The majority opinion interprets the claims somewhere between the interpretations of Exxon and Lubrizol, as covering any mixed product—final or otherwise—in which the five ingredients specified in the claims exist in the claimed amounts. The majority accepts Lubrizol's proof that at least some ashless dispersant is converted to nonashless dispersant during production of Lubrizol's products, and because of that, proving that the required amounts of the five ingredients were mixed is not enough to prove infringement. Consequently, to show infringement, the majority believes that it was Exxon's burden to prove that, at some point during production of Lubrizol's products, the mixing pot contained *the claimed amounts* of "ashless dispersant" and the other four claimed ingredients. And, the majority concludes, Exxon has not introduced enough evidence in the record to meet that burden.

I agree with the trial judge's interpretation of the claims that one skilled in the art, upon reviewing the patent specification, claims, prosecution history, and testimony, would interpret claims 1 and 61 as covering a lubricating oil

composition comprising the product resulting from a combination of the required five ingredients, in the claimed amounts, regardless of any unknown reactions, or metal complexes formed between those ingredients that occurs upon mixing. With that interpretation, literal infringement is admitted.

A. *Claim Interpretation in General*

To determine the meaning of claims, we must examine the patent specification, other claims, and the prosecution history. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979, 34 USPQ2d 1321, 1329 (Fed. Cir. 1995) (*in banc*). Resort to testimony of those knowledgeable in the art might also be helpful to the court inasmuch as claims are interpreted from the perspective of one of ordinary skill in the art. *SmithKline Diagnostics, Inc. v. Helena Lab. Corp.*, 859 F.2d 878, 882, 8 USPQ2d 1468, 1471 (Fed. Cir. 1988).

B. *The Specification and Claim*

The patent specification discusses the invention in terms of an additive for motor oil which does not interfere with the function of other additives. The particular focus is on addition of the copper compound as an antioxidant and the amount of it that is employed. Moreover, the amounts specified in the working examples and other parts of the specification are identified as the amount of the additives, not the amounts in the final product after mixing. There is no analysis anywhere in the specification of the identity of intermediate or final "complexation" products produced by combining the ingredients specified in the claims, or of their amounts. In light of those omissions, to say that one of ordinary skill in the art would nevertheless conclude that the proportions must be measured in the pot is divorced from reality.

The interpretation that the claims list starting ingredients is bolstered by comparing the many nonborated, ashless dispersants disclosed at columns 6-8 of the patent, and expressly included in the claims, with the one type of dispersant—the borated version of certain ashless dispersants—that the parties agree does not complex with the metal moieties from the other ingredients specified in the claims. Because the nonborated, ashless dispersants do not remain completely ashless when mixed with the other ingredients specified in the claims, under the majority's interpretation the claims would not cover use of such dispersants if a sufficient amount thereof complexed with metal to form nonashless dispersants. Yet, it is those nonborated dispersants to which the specification and claims are primarily directed.[5] Consequently, the majority interpretation limits coverage to far fewer dispersants than indicated by the specification and claims.

Moreover, the '890 specification does not describe nor teach the invention contemplated by the majority's claim interpretation, *i.e.*, it does not teach the types of dispersant, the amounts thereof, or the conditions needed to attain a composition containing—after complexation—the amounts of ingredients specified in the claims. Although, under the majority's interpretation, the specification would be enabling for the claimed borated dispersants (because they do not complex), those dispersants constitute only a small portion of the disclosed and claimed dispersants. Hence, formulating the composition as interpreted by the majority, even if within ordinary skill in the art, would require extensive

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[5] Borated ashless dispersants are discussed at column 8, lines 43-50 of the '890 specification and are used in the four working examples. Of the 83 claims in '890, claims 7, 14-24, 30, 37-60, 65, and 72-82 specifically mention the borated, as well as other, dispersants.

experimentation not even suggested in the patent, thereby rendering the claims invalid.[6]

C. *Prosecution History*

As does the specification, the prosecution history focuses on the additives as starting ingredients, not on any reaction products (and the amounts in a final or intermediate product). As an example, the Examiner's Answer prepared with respect to appeal of the examiner's rejection of the claims in Application Ser. No. 362.114 (which was the grandparent of Application Ser. No. 49,712, the application resulting in the '890 patent), states

> The claims are believed to be directed to the composition comprising known additives, combined at conventional levels of additions for their combined attendant functions.

And in the Reply Brief to that Examiner's Answer, the applicants state:

> The question should be whether the specific combination of additives claimed by Appellants is novel, and gives it unobvious results. The answer is the combination is novel and the combination does give unexpected results.

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[6] *See generally Genetech, Inc. v. The Wellcome Foundation Ltd.*, 29 F.3d 1555, 1564-65, 31 USPQ2d 1161, 1168 (Fed. Cir. 1994) (rejecting a claim interpretation that covers many inoperative permutations); *Atlas Powder Co. v. E.I. duPont De Nemours & Co.*, 750 F.2d 1569, 1576-77, 224 USPQ 409, 414 (Fed. Cir. 1984) ("if the number of inoperative combinations becomes significant, and in effect, forces one of ordinary skill in the art to experiment unduly in order to practice the claimed invention, the claims might indeed be invalid"); *Raytheon Co. v. Roper Corp.*, 724 F.2d 951, 956, 220 USPQ 592, 596 (Fed. Cir. 1983) ("Because it is for the invention as claimed that enablement must exist, and because the impossible cannot be enabled, a claim containing a limitation impossible to meet may be held invalid under § 112."), *cert. denied*, 469 U.S. 835 (1984).

And elsewhere during prosecution of that application, and of SN 049,712, the examiner refers to "the various additives of the claims (dispersants ... dithiophosphates ...)."

Exxon's interpretation is also supported by the following episode. SN 362.114 included both claim 37, which referred to a "copper compound," and claim 38, which was to a "composition according to claim 37, said copper compound being oil soluble." Claim 38 was rejected because it duplicated claim 37.[7] The examiner took the position that the copper compound *must* be oil soluble—hence, "copper compound" and "oil soluble copper compound" are the same. The applicants, however, argued that "[o]ne can have a solution of a *dispersant complexed* with an oil insoluble copper compound, or can have an oil soluble [copper] compound" (emphasis added). Similar debate transpired during prosecution of Application SN 177, 367, the parent of SN 362,114. The Board agreed with applicants.[8]

The argument made during prosecution that some of the claims read on embodiments wherein the copper complexes with the ashless dispersant is probative of Exxon's claim interpretation as well as that of the examiner. Specifically, it shows the claim is directed to a product with "ashless" dispersant as a starting ingredient, inasmuch as some of the claims covered formation of a complex between that dispersant

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[7] Paragraph 2 of 35 U.S.C. § 112 (1988), states: "The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention."

[8] The Board noted that the examiner had not yet raised an "insufficient disclosure" rejection (under 35 U.S.C. § 112, ¶ 1). That rejection was subsequently raised, in the context of rejecting claims 15-17 of SN 049,712 on the specific ground of insufficient support in the specification for an oil insoluble copper compound. Those claims were eventually dropped by applicants.

and the metal, a formation that would render the dispersant "non-ashless". Significantly, the examiner found no flaw in claiming a motor oil product with additives as set out in Exxon's claim here (and I note in its foreign applications as well).

D. *Other Considerations*

The record includes testimony by Exxon witnesses that it is not known how copper serves as an antioxidant in the environment of the claimed composition, that certain reactions are not predictable in that environment, even though they might be predictable in a model, that it is uncertain whether zinc or phosphorus of ZDDP undergoes interaction, and in general, that no one was certain of the exact identity of the final composition or what was happening in the pot. Despite that, the majority holds applicants responsible for knowing about the formation of a complex between the five ingredients required by the claims. In effect, therefore, the majority opinion penalizes applicants for not knowing or caring about exactly how their invention works.

But, "it is axiomatic that an inventor need not comprehend the scientific principles on which the practical effectiveness of his invention rests." *Fromson v. Advance Offset Plate, Inc.*, 720 F.2d 1565, 1570, 219 USPQ 1137, 1140 (Fed. Cir. 1983); *accord In re Isaacs*, 347 F.2d 887, 892, 146 USPQ 193, 197 (CCPA 1965). As stated in *Diamond Rubber Co. v. Consolidated Rubber Tire Co.*, 220 U.S. 428, 435-36 (1911):

> And how can it take from his merit that he may not know all of the forces which he has brought into operation? It is certainly not necessary that he understand or be able to state the scientific principles underlying his invention, and it is immaterial whether he can stand a successful examination as to the speculative items involved. [Citations omitted.]

In that respect, Frank Johmann, who helped prosecute the relevant applications for Exxon, stated:

> [When looking at an invention like this with a number of components, to determine infringement] ... you look at what is combined to make the product. The reason for that is that the patent law doesn't require that you understand what happens to that final product. All that is necessary is how you obtain the result. And it is sort of like baking a cake. You mix them together. And what happens chemically in the oven, you are not concerned with. With these compositions, what happens in the engine no one really knows and it is not a consideration.

Mr. Johmann stated that he has "seen probably literally thousands of lubricant patents over the years, and this is like a standard format for a composition." *Id.* Thus, claiming the composition in terms of amounts of additives is "a typical way it is done in connection with motor oil additives." *Id.* Though Mr. Johmann was a patent practitioner, as opposed to a scientist skilled in the art, he adds to the record the perspective of one who has seen many patents in this field, and by shedding some light on how claims have been written in the field, he helps illuminate how one skilled in the art would read the '890 claims.

Furthermore, when Lubrizol asked its own employee, Mr. Pindar, in 1988 to determine whether certain of its products infringed the European counterpart of '890, he performed the analysis by comparing the starting ingredients, not the final or intermediate products. Mr. Pindar, who was a scientific advisor to Lubrizol, read the claims as a person of skill in the art would read the claims. Moreover, Dr. Salomon, a lubricant formulator working for Lubrizol, testified (although not in the specific context of interpreting claim language) that her concern as a formulator is "what goes in the pot."

Lubrizol argues that Exxon's omission of the word "mixture" from the '890 claims precludes interpretation of the claims as a list of starting ingredients. This is indeed a slender reed on which to lean. "Mixture" is implied in the composition claims at issue, because by listing five "additives," the claim implies that coverage is for a mixture of those. Thus, Exxon is claiming a "composition of matter," which:

> "... is an instrument formed by the intermixture of two or more ingredients, and possessing properties which belong to none of these ingredients in their separate state.... The intermixture of ingredients in a composition of matter may be produced by mechanical or chemical operations, and its result may be a compound substance resolvable into its constituent elements by mechanical processes, or a new substance which can be destroyed only by chemical analysis." [Footnote omitted.]
>
> Walker notes that "this class is a very broad one and embraces chemical compounds, mechanical or physical mixtures, alloys and a great variety of things." [Footnote omitted.]

1 Chisum, PATENTS, § 1.02[2] at 1-10 (1995) (quoting from W. Robinson, The Law of Patents for Useful Inventions 278-79 (1890)).

E. *Conclusion*

Lubrizol added to its motor oil the ingredients taught by the specification, and articulated in the claims, of Exxon's '890 patent. Lubrizol then sought to avoid infringement by arguing at trial that the claims are not literally infringed because metal ions from some of the ingredients complex with the ashless dispersant specified in the claims, converting "ashless dispersant" to nonashless dispersant. That argument was unsuccessful under the district court's claim

interpretation, but it has succeeded on appeal under the majority's claim interpretation.

The majority and concurring opinions seem to be of the view that, if Exxon wanted to claim a lubricating oil composition formed by combining the five ingredients specified in the claims, it made a technical error in writing the claims. The majority would require a product by process claim to cover a product comprising a formula of starting ingredients even though the claim requires no particular method of mixing or particular process steps. It is not a "recipe" with specific directions for making the product. Certainly the examiner found nothing technically wrong with the claim as a list of additives for motor oil. In the view of an experienced claim drafter, Mr. Johmann, this is a standard form for such a product. I am of the view that, to one of ordinary skill in the art, the claims as written cover a product, not a method.[9] Consequently, I disagree with the majority and would affirm the district court's judgment of liability.

II.

I would add that the majority's reversal is an extraordinary disposition assuming its interpretation were correct. This appeal challenges the district court's ruling on Lubrizol's renewed motion for JMOL under Fed. R. Civ. P. 50. The majority holds that the district court's ruling on the merits of Lubrizol's motion was correct. Lubrizol's argument for JMOL—that the claims define the final product—is rejected. If Lubrizol had attempted to advance the position of the majority in this appeal, we would have rejected the

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[9] The majority, in its footnote 3, questions whether the claims as so interpreted would be literally infringed if one of the "starting ingredients" is made in situ. That issue is not before us, but it appears to me that there would be literal infringement in such a circumstance because the product formed "in situ" itself can be considered a "starting ingredient".

argument is outside the grounds asserted in the JMOL motions, before submission to the jury, as well as after the verdict was returned. *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1579, 1 USPQ 1081, 1091 (Fed. Cir. 1986) ("A specific reference to an issue in a motion for JNOV cannot preserve that issue for appeal where that issue was not specifically included in a motion for directed verdict made before the jury retired to consider its verdict."); *Malta v. Schulmerich Carillons, Inc.*, 952 F.2d 1320, 1324, 21 USPQ 1161, 1164 (Fed. Cir. 1991) ("'Fed.R.Civ.P. 50(b) allows for entry of JNOV 'only in accordance with the party's motion for a directed verdict.'"), *cert. denied*, 504 U.S. 974 (1992).[10] The issue on appeal is not the global question "What do Exxon's claims mean?" but rather "Did the district court err in denying Lubrizol's JMOL?" It is not unusual to see a case where a party failed to raise a defense on which it might have prevailed. However, our review of a trial court's ruling on a motion for JMOL is limited to the grounds

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[10] The majority does not dispute the proposition of law quoted from *Orthokinetics* but relies on an alternative ground of decision that no objection was made to the grounds stated in the post-verdict motion. In *Malta*, this court held that a general post-trial JMOL motion incorporated the specifics of the earlier JMOL motion. The majority finds support in *Malta* because the broader meaning it gives the claim than that advanced by Lubrizol is smaller than the spread between the general and specific motions in *Malta*. I read *Malta* to say that the general and specific motion in that case were the same. In any event, the majority's premise that Exxon is not prejudiced by denial of a new trial is flawed because the majority advanced a broader claim interpretation than that advanced by Lubrizol. Infringement of a narrower claim would establish infringement of a broader claim to the same invention, but the converse is not true. Failure to prove infringement of the narrower claim does not establish non-infringement of the broader claim.

asserted." The authority of an appellate court to enter a judgment rather than remand is severely circumscribed. If no motion for JMOL on the issue is made an "appellate court [is] without power to direct the District Court to enter judgment contrary to the one it had permitted to stand." *Cone v. West Virginia Pulp & Paper Co.*, 330 U.S. 212, 218 (1947); *see also Biodex Corp. v. Loredan Biomedical, Inc.*, 946 F.2d 850, 854, 20 USPQ2d 1252, 1255 (Fed. Cir. 1991) ("Quite clearly, the only available remedy upon finding error in a judgment entered on a jury verdict where [issue not preserved by proper JMOL] is limited to a remand for a new trial."), *cert. denied*, 504 U.S. 980 (1992).

The precedent cited by the majority for reversal is inapt. In *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 19 USPQ2d 1367 (Fed. Cir. 1991), this court agreed with the appellant's position raised below by JMOL and on appeal. No material issue of fact prevented entry of judgment on appeal. In *Jamesbury Corp. v. Litton Indus. Prods.*, 756 F.2d 1556, 225 USPQ 253 (Fed. Cir. 1985), the JMOL was reversed on the argued grounds and the case was remanded for trial of other issues. *Dana Corp. v. IPC Ltd. Partnership*, 860 F.2d 415, 8 USPQ2d (Fed. Cir. 1988), *cert. denied*, 490 U.S. 1067 (1989), reversed a JMOL on the ground argued below and on appeal.

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[1] Fed. R. Civ. P. 50: Notes of Advisory Committee on Rules (1991 Amendment) state:

> The second sentence of paragraph (a)(2) does impose a requirement that the moving party articulate the basis on which a judgment as a matter of law might be rendered. The articulation is necessary to achieve the purpose of the requirement that the motion be made before the case is submitted to the jury, so that the responding party may seek to correct any overlooked deficiencies in the proof.

The wisdom of Rule 50 cannot be gainsaid. By advocating a different interpretation of the claim *sua sponte*, the majority required Exxon to litigate during trial not only its opponent's position but also the unknowable position of the appellate court. Exxon has been deprived of a jury trial on an unasserted and *untried* theory. The majority decision comes out of the blue. The majority opines that the requirement that Exxon prove infringement of a *product* claim does not come out of the blue, and that Exxon, therefore, is not entitled to escape the flaw of its claim drafting by a second trial. This reflects the majority's view, not Exxon's, that a list of additives for motor oil is an invention for a process or for a product made by a process. Exxon never asserted that its claim was for anything for a product. Without pointing to any rule set by the statute or a regulation or by the MANUAL OF PATENT EXAMINING PROCEDURE, the majority decides that Exxon's standard type of claim is poorly drafted.

The majority then states that Exxon attempted to prove infringement under the majority's claim interpretation by evidence of what happened chemically in the pot in pre-final states. This evidence "is credited" in determining the post-trial motion. The record discloses that Lubrizol attempted to prove that its *final* product did not contain ashless dispersant because of what happened in the pot. Lubrizol's theory was that its dispersant, although ashless to begin with, complexed with metal so as to become non-ashless in the *final* product. Exxon countered with evidence that such complexation was transient. To rule for Lubrizol, the majority must assume that the absence of proof by Exxon, for example, that for a few moments after mixing no complexation occurred—which would satisfy the majority's claim interpretation—means that that fact could not be proved. Whether or not Exxon was precluded from such proof is debatable. That issue was not part of Exxon's or Lubrizol's theory of the case. But

precluded or not, there was no reason for Exxon to evaluate any intermediate product.

The majority notes its claim interpretation is broader than that of Lubrizol and, therefore, it is easier to prove infringement, but Exxon is denied that opportunity. In my view this is untenable. I read nothing in *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 34 USPQ2d 1321 (Fed. Cir. 1995) which sanctions this procedure. *Markman* upheld a ruling on a JMOL motion. Exxon cannot conceivably have waived the issue of infringement under the majority's broader claim construction, as the majority rules. Exxon proposed deletion of an instruction on infringement by equivalents in the final version of the instructions, but this revision occurred only after the district court adopted Exxon's claim interpretation in its instructions. Exxon did not waive this issue in connection with Lubrizol's or the majority's different interpretation of the claim. The most the majority could say, as a matter of law, is that there is no possibility of proof of literal infringement. However, the question of infringement under the doctrine of equivalents is a jury question under the recent decision of this court in banc. *Hilton Davis Chem. Co. v. Warner-Jenkinson Co.*, No. 93-1088, 1995 U.S. App. Lexis 21069, at *24 (*per curiam*) (Fed. Cir. Aug. 8, 1995). The majority simply cuts Exxon off from its right to have the issue of infringement under the majority's claim interpretation tried to a jury.

For the foregoing reasons, I dissent to the merits and to the procedure adopted by the majority.

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

EXXON CHEMICAL PATENTS, INC., EXXON CORPORATION, and EXXON RESEARCH AND ENGINEERING COMPANY,	§	
Plaintiffs and Counter-Defendants	§	
VS.	§	CIVIL ACTION
	§	NO. H-89-3203
THE LUBRIZOL CORPORATION,	§	
Defendant and Counter-Plaintiff.	§	

PERMANENT INJUNCTION

On December 23, 1992 after a multi-week trial, the jury returned a verdict finding (a) that Exxon's U.S. Letters Patent 4,867,890 is valid and enforceable, (b) that Lubrizol has directly infringed Claim 61 of the patent, and has contributorily infringed and induced the infringement of Claim 1 of the patent, (c) that such infringement was willful and (d) that Lubrizol has acted in bad faith. On the basis of the full record at trial, the jury verdict, and the applicable law, this Court finds and holds that the patent is valid, willfully infringed and enforceable, and that Lubrizol has acted in bad faith. The Court also finds and holds that the provisions of this Permanent Injunction are appropriate and necessary to protect Plaintiffs' rights under this patent. Accordingly, the Court grants Exxon's application for an Order of Permanent Injunction.

IT IS ORDERED:

1. The Lubrizol Corporation, its subsidiaries, divisions and affiliates, and their directors, officers, agents, servants, representatives, employees, successors and assigns, and all persons in active concert or participation with any of them who receive notice of this injunction, are enjoined:

a. from making, using or selling the following products in the United States:

3577X	7888	8855	8870
6529	7888N	8855C	8870A
6589U	8385A	8855D	8875D
7574H	8385F	8855E	8887
7574L	8805	8855F	8887A
7574X	8805F	8855G	8889
7608P	8818	8855K	8908
7808C	8821	8855W	8909
7882	8850A	8865	8910
7884	8852	8866	8912

or any other products no more than colorably different from one or more of the products listed above;

b. from making, using or selling any lubricating oil concentrate composition that infringes Claim 61 of U.S. Letters Patent No. 4,867,890;

c. from inducing infringement or contributorily infringing Claim 1 of U.S. Letters Patent No. 4,867,890, by manufacture, use or sale of lubricating oil concentrate compositions; and

d. from otherwise directly infringing, contributorily infringing, or inducing infringement of the claims of U.S. Letters Patent No. 4,867,890.

2. Within twenty-four hours from the signing of this Permanent Injunction, Lubrizol shall contact all customers

who have purchased from Lubrizol any infringing product within the last sixty days and advise those customers of the terms of this permanent injunction order.

3. Within fourteen days of the signing of this Permanent Injunction, Lubrizol shall file with the Court and provide to Exxon an accounting of all infringing products shipped or sold since December 23, 1992 to any United States customer or sold or shipped by Lubrizol from anywhere in the United States to any customer, regardless of where the customer is located.

4. During the terms of U.S. Letters Patent No. 4,867,890, prior to selling in the United States any copper-containing lubricating oil composition suitable as a crankcase lubricant in internal combustion engines, or any copper containing component intended therefor, or any copper-containing lubricating oil concentrate composition suitable for use in preparing a crankcase lubricant in internal combustion engines, or any copper containing component intended therefor, Lubrizol shall submit to Exxon or its designee specification sheets, formula cards, blend cards, recommended treat rates and any other information necessary for Exxon to determine whether such composition would infringe the claims of the patent. Such information shall be subject to an appropriate Protective Order to be entered.

5. This Permanent Injunction includes without limitation the prohibitions set out in 35 U.S.C. § 271(f)(1) and (2).

6. This Court retains jurisdiction to interpret and enforce the provisions of this Permanent Injunction, including any future question of its violation or of infringement by Lubrizol of U.S. Letters Patent No. 4,867,890.

Signed at 2:00 p.m. this 7th day of January, 1993 at Houston, Texas.

s/ Norman Black
NORMAN W. BLACK
CHIEF JUDGE

ENTERED FEB. 5 1993

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

EXXON CHEMICAL PATENTS, INC., EXXON CORPORATION, and EXXON RESEARCH AND ENGINEERING COMPANY,	§	
Plaintiffs and Counter-Defendants,	§	
v.	§	CIVIL ACTION
	§	NO. H-89-3203
THE LUBRIZOL CORPORATION,	§	
Defendant and Counter-Plaintiff.	§	

FINAL JUDGMENT ON LIABILITY

On December 23, 1992, the Jury returned its verdict on the Court's written questions. On the basis of the Jury's findings, the evidence at trial, the findings of this Court and the applicable law

It is ORDERED, ADJUDGED AND DECREED as follows:

1. This Court has jurisdiction over the subject matter of this action and of the parties. Venue is proper. Each plaintiff has standing.

2. U.S. Patent No. 4,867,890 issued September 19, 1989.

3. Lubrizol has not carried its burden of overcoming the presumption of validity of U.S. Patent No. 4,867,890. It is not invalid under 35 U.S.C. § 102(a), (b), (e), (f) or (g), nor would it have been obvious under 35 U.S.C. § 103.

4. U.S. Patent No. 4,867,890 is enforceable and Exxon did not commit inequitable conduct in obtaining that patent.

5. Lubrizol has directly infringed claims 61, 62, 63 and 72 of U.S. Patent No. 4,867,890 by the manufacture, use and sale of its product 8855G and the products identified on Appendix A (except 8385A and 8385F).

6. Lubrizol has induced infringement of claims 1, 25, 27 and 37 of U.S. Patent No. 4,867,890 by the manufacture, use and sale of its product 8855G and its products identified on Appendix A by inducing its customers to directly infringe these claims.

7. Lubrizol has contributorily infringed claims 1, 25, 27 and 37 of U.S. Patent No. 4,867,890 by the manufacture, use and sale of its product 8855G and the products identified on Appendix A to its customers who directly infringed these claims.

8. Lubrizol's infringement of U.S. Patent No. 4,867,890 was willful.

9. Lubrizol has acted in bad faith throughout this entire litigation.

10. Lubrizol is permanently enjoined from infringing U.S. Patent No. 4,867,890 as set out in the Permanent Injunction, signed January 7, 1993, and shall obey all terms of that Injunction.

11. Lubrizol's First and Third Counterclaims of Its Amended Answer and Counterclaim, seeking certain declaratory relief and asserting antitrust allegations, are dismissed with prejudice.

Plaintiff's motion for attorneys' fees and sanctions (entry 481) is taken under advisement.

IT IS SO ORDERED.

Signed this 5th day of February, 1993 at Houston, Texas.

s/ Norman Black
NORMAN W. BLACK
CHIEF JUDGE

Appendix A

LUBRIZOL PRODUCTS

3577X	7888	8855	8870A
6529	7888N	8855C	8875D
6589U	8385A	8855D	8887
7574H	8385F	8855E	8887A
7574L	8805	8855F	8889
7574X	8805F	8855K	8908
7608P	8818	8855W	8909
7808C	8821	8865	8910
7882	8850A	8866	8912
7884	8852	8870	

ENTERED FEB. 16 1993

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

EXXON CHEMICAL PATENTS, INC., et al.,	§	
	§	
Plaintiffs	§	
	§	
v.	§	CIVIL ACTION
	§	NO. H-89-3203
THE LUBRIZOL CORPORATION,	§	
	§	
Defendant.	§	

ORDER

Pending before the Court are several motions in the above matter. Responses and reply briefs have been filed. A trial on liability was held in December 1992 and after hearing all the evidence a jury found for Plaintiff. Defendant, The Lubrizol Corporation ("Lubrizol") has moved for judgment in its favor, amended findings and judgment or, alternatively, a new trial. Defendant contends the evidence presented at trial establishes that the verdict was inconsistent with the law governing the case and believes all claims against it should be dismissed, the permanent injunction vacated and that the Court's findings and judgment on the issue of the '890 Patent should be amended. In the alternative, Defendant asserts the rulings and charges by the Court were contrary to both the law and the weight of the evidence resulting in an unfair trial.

The Court has again reviewed Lubrizol's argument that it did not infringe the '890 Patent or that the '890 Patent is

invalid. There was extensive testimony at trial regarding LeSuer '493 Patent and its possible relationship to the '890 Patent. The jury heard Defendant's expert witnesses testify and had an opportunity to assess their credibility and determine what weight to give their testimony. Their rejection of Lubrizol's position can easily be supported by the evidence.

Lubrizol continues to assert that Exxon Corporation is not a proper party. This issue was resolved early in this litigation and the Court found The Exxon Corporation is the sole legal entity with the right to license the patent and bring suit against infringers. Defendant also asserts a new trial is warranted based on claims construction. This argument lacks merit as well.

In addition, Lubrizol contends there was an erroneous jury instruction on the issue concerning inequitable conduct. The Court meticulously reviewed the jury instructions before they were given. After reevaluating Issue No. 8 the Court finds it clearly set forth the burden of proof and the jury was thoroughly instructed on inequitable conduct. Furthermore, Lubrizol failed to properly object or preserve error on this point. Lubrizol also complains that it was prejudiced because of additional errors in the jury instructions. Once again, the Court finds these arguments are meritless.

Finally, Lubrizol contends the Court erred by unduly limiting trial time and the number of expert witnesses. Lubrizol had a full and fair trial and was not deprived of due process. The Court has broad discretion in determining how a trial shall proceed. This claim is frivolous. Based on the above, it is

ORDERED that Defendant Lubrizol's motion for judgment in its favor, amended findings and judgment or, alternatively, a new trial (entry 491) is DENIED. It is further

ORDERED that Defendant Lubrizol's motion for judgment as a matter of law at the close of all the evidence (entry 464) is MOOT as this motion was denied on the record during trial. It is further

ORDERED that Defendant Lubrizol's motion *in limine* to exclude Magistrate-Judge Botley's January 30, 1991 Memorandum and Order (entry 406) is MOOT. It is further

ORDERED that Defendant Lubrizol's motion to protect the parties' confidential information during and after trial (entry 427) is MOOT. It is further

ORDERED that Plaintiff's motions concerning attorneys' fees, costs and sanctions (entries 422 and 481) are under advisement.

IT IS SO ORDERED.

Signed this 12th day of February, 1993 at Houston, Texas.

s/ Norman Black
NORMAN W. BLACK
CHIEF JUDGE

FILED FEB. 17 1993

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

EXXON CHEMICAL PATENTS, INC., EXXON CORPORATION, and EXXON RESEARCH AND ENGINEERING CO.,	§	
Plaintiffs	§	
v.	§	CIVIL ACTION
	§	NO. H-89-3203
THE LUBRIZOL CORPORATION,	§	
Defendant.	§	

ORDER

This case was filed on September 19, 1989 as part of the continuing saga of the two leading oil additive manufacturers' use of the judicial process to try to obtain market advantage over each other. Plaintiffs ("Exxon") and Defendant ("Lubrizol") have attacked each other in the courts of Canada and the United States over a number of issues and over a long period of time.

When this Judge became aware fairly early in this case that there was a very high likelihood that the fact finder would conclude that the patent had been infringed and that settlement was in the best interests of the shareholders of the parties, every effort was made to encourage resolution of the issues short of a jury trial. The Judge held frequent conferences with counsel and resolved as many of the complex disputes as time permitted. When the discovery disputes began to drive

the case, Magistrate Judge Calvin Botley provided excellent service to the parties in helping to resolve those disputes. It soon became evident that Lubrizol was not at all interested in settlement, but preferred a war of attrition by resisting reasonable discovery and by continuously injecting into the case extraneous and inflammatory issues calculated solely to embarrass Exxon and cause as much expense and delay as its counsel could invent. The Magistrate Judge soon lost patience with Lubrizol, and the Judge began to assume as much control over the case as possible.

After becoming convinced that the best interests of both parties was in settlement, the Judge assigned the case for mediation to Alan F. Levin, Esquire, who possessed every qualification for mediating this dispute including a degree in psychology. Unfortunately, Mr. Levin did not major in abnormal psychology, and the mediation ultimately failed.

When counsel presented the Judge for *in camera* inspection thousands of pages of complex documents containing reference to this particular chemical patent and other chemistry-related matters, the Mediator was named Special Master to attempt to resolve the confidentiality questions. Mr. Levin worked literally night and day for an extended period of time and resolved those disputes to the Court's satisfaction.

During and after Mr. Levin's work, the Judge held a number of face-to-face meetings with the attorneys and the highest officials of both Exxon Chemicals and Lubrizol to explore the issues and to lend his services to bring the case to a conclusion fair to both sides. These settlement efforts are mentioned only to help explain why this case began to take on a life of its own, and *neither party is being penalized in any way for refusing to settle*.

After concluding that the case had reached the point where it had to be tried, the Court (with the agreement of

counsel) bifurcated the trial, and the issue of liability only was submitted to a jury. On the tenth day of trial, December 23, the Jury found for Exxon on all issues including a finding of "willful infringement." The Order denying Lubrizol's motion for entry of judgment in its favor was docket entry number 505.

Pending before the Court are Exxon's motions for the recovery of attorneys' fees and related costs, for sanctions and for enhancement of damages. Plaintiffs have briefed four provisions of law to sustain their claim for attorneys' fees and costs: 1) 35 U.S.C. § 285, 2) 28 U.S.C. § 1927, 3) Rule 11, Fed. R. Civ. P. and 4) the Court's inherent power. Responses have been filed as well as reply briefs. In addition, Plaintiffs have submitted voluminous billing records in support of their request. After consideration of the jury verdict, the briefs, and the detailed and voluminous billing records of Exxon's counsel, the Court finds that an award of attorneys' fees and costs is appropriate in this case. The Court has also considered Lubrizol's submission of its attorneys' fees and costs.

To award attorneys' fees under § 285 and § 1927 the Court must ascertain whether this is an exceptional case. Factors to consider are willful infringement, bad faith, vexatious litigation and/or litigation misconduct. *See, e.g., Alyeska Pipeline Co. v. Wilderness Society*, 421 U.S. 240, 257-59 (1975); *Bott v. Four Star Corp.*, 807 F.2d 1567, 1574 (Fed. Cir. 1986). This is a factual finding. *See Reactive Metals Alloys Corp. v. E.S.M., Inc.*, 769 F.2d 1578 (Fed. Cir. 1985).

In this case, the jury determined that the infringement was willful and it is the duty of this Court to verify that this factual determination is supported by substantial evidence. "[W]hen a trial court denies attorney fees in spite of a finding of willful infringement, the court must explain why the case

is *not*, "exceptional" within the meaning of the statute." *Modine Manufacturing Company v. Allen Group, Inc.*, 917 F.2d 538, 543 (Fed. Cir. 1990), *cert. denied*, 111 S.Ct. 2017 (1991) *citing S.C. Johnson & Son, Inc. v. Carter-Wallace, Inc.*, 781 F.2d 198, 201 (Fed. Cir. 1986). "The trial judge is in the best position to weigh considerations such as the closeness of the case, the tactics of counsel, the conduct of the parties, and any other factors that may contribute to a fair allocation of the burdens of litigation as between winner and loser. . . ." *Id.* at 201.

Defendant's primary defense to willfulness is that it could not willfully infringe because it was sued on the day the '890 patent issued. It is possible to have willful infringement before a patent issues. *See Milgo Electric Corp. v. United Business Communications, Inc.*, 623 F.2d 645, 665 (10th Cir.), *cert. denied*, 449 U.S. 1066 (1980). The evidence shows that Defendant was not an innocent manufacturer unaware of Exxon's forthcoming patent rights and the jury properly found willful infringement. The patent at issue was in the Patent Office for some nine years before it was granted, and Exxon had previously obtained a very similar patent in the European Patent Office.

It is impossible for the Court to list all the incidents of willfulness, vexatious litigation, and bad faith that has occurred to date, but a few illustrations will be given. Immediately following the filing of this lawsuit, Defendant filed a declaratory judgment action in Ohio and failed to inform that Court of the pending Texas litigation. This Court was forced to confer with the Judge handling that case and both judges decided that justice demanded that the litigation remain in Texas.

Every issue raised was disputed and thoroughly overbriefed. There were motions, responses, replies, responses to the replies, and exhibits flowed like oil. Lubrizol

filed many unnecessary motions. For example, a motion to reconsider was filed after essentially every ruling. Defendant's filing of its second counterclaim asserting the alleged infringement of the LeSuer '493 patent, which had expired more than six years before, was time-barred and clearly frivolous at the time it was filed. Defendant also went through a period of time where it filed all its pleadings under seal claiming privilege where there was no legitimate argument for such claim. While a few of these documents should remain confidential, Lubrizol abused this process far more than Exxon did.

The discovery disputes in this case were beyond compare and to document them would require a law review article to supplement this memorandum. The record is replete with warnings by the Court and the Magistrate Judge followed by broken promises by Defendant to discontinue such conduct.

The only part of this litigation that withstands scrutiny for violation of the canons of ethics and the Federal Rules of Civil Procedure is the conduct of William C. Slusser and Lee Kaplan for Exxon and Carol Vance for Lubrizol. They did their best to control the cost and delay of this litigation and performed according to the highest standards of their profession. Unfortunately for Lubrizol, it was evident early in this case that Mr. Vance was not being permitted to control Lubrizol. The Lubrizol pre-trial and trial strategy was under the control of its other counsel.

The court has reviewed Plaintiffs' request for attorneys' fees and costs in light of the factors set forth in *Johnson v. Georgia Highway Express, Inc.*, 488 F.2d 714, 720 (5th Cir. 1974) and makes the following findings:

1. The time and labor required. This suit was filed in September 1989 in the Southern District of Texas. Defendants immediately filed a declaratory judgment action in Ohio then moved to dismiss the Texas case. Defendant concurrently

claimed this Court lacked jurisdiction alleging the patent had not issued. That issue was taken to the United States Court of Appeals for the Federal Circuit. This was only the beginning. Every point became a hotly contested issue, and the discovery became so unmanageable that even the Special Master had to suspend his busy law practice to review the large number of documents submitted for *in camera* review. Numerous hearings were held on various topics.

Plaintiffs retained the services of the law firms of Baker & Botts and Fitzpatrick, Cella, Harper & Scinto to assist them in this litigation. Exxon is not seeking recovery of the fees it paid to the Cleveland law firm for defending the duplicative Ohio suit or for fees for in-house counsel which may be recoverable where the work performed would otherwise be done by outside counsel.

After careful review the Court accepts as reasonable the documentation of Exxon's counsel as to time required by the attorneys involved and finds no reason to adjust these amounts up or down.

2. The novelty and difficulty of the questions. This case involved many complicated issues and unique problems. The analytical effort involved, especially during discovery, made this case exceptional and difficult. The introductory part of this memorandum spells out these matters in detail.

3. The skill requisite to perform the legal service properly. This is a complex patent infringement case. Plaintiffs' counsel capably presented and pursued their case. The Court found all issues ably briefed by Exxon's counsel and finds that their excesses were mandated by the action of Lubrizol's counsel.

4. The preclusion of other employment by the attorney due to acceptance of the case. Plaintiffs' counsel did not mention whether work on this case precluded other

employment, but the Court knows that both Mr. Slusser and Mr. Kaplan had to have devoted 100% of their time to this case over a substantial period of time.

5. The customary fee. Exxon counsel have submitted to the Court *in camera* several bound volumes concerning the fees it charged its clients in this litigation. The Court finds these rates to be within the expected range for attorneys of these experience levels in the Houston legal community and, in absence of any contrary evidence, concludes that they are reasonable.

6. Whether the fee is fixed or contingent. The fee here was apparently fixed. The Court finds no basis in this factor to adjust the award upward or downward.

7. Time limitations imposed by the client or the circumstances. Counsel did not spell out any particular problems, but it is obvious that this case monopolized a substantial portion of their time.

8. The amount involved and the results obtained. The amount of fees and costs involved in this case by both sides are, to use a word that barely suffices, astronomical. Although the damages portion of the trial has not yet taken place, it is obvious from the amount of money spent by both sides on the issue of liability that the product covered by the '890 patent is extremely profitable.

9. The experience, reputation, and ability of the attorneys. All of the law firms involved in this case are sizable and well respected. The Court is personally familiar with the excellent reputation of many of the individual attorneys. For the purposes of this analysis, the Court finds that all of the attorneys for Exxon were highly experienced, possessed excellent reputations and showed great ability.

10. The "undesirability" of the case. Counsel did not claim any element of undesirability attached to this case, but

the Court finds that the only "desirable" factor was that both clients had deep pockets and understanding general counsel.

11. The nature and length of the professional relationship with the client. Plaintiff has retained the services of Baker & Botts for several decades and that firm often retains additional counsel when necessary. This factor does not suggest adjustment of the fee upward or downward.

12. Awards in similar cases. Neither party has presented evidence of other awards in analogous cases, and the Court seriously doubts that there is a "similar" case. The Court's experience and research indicate that the amount claimed by Exxon's counsel is at least proportionate to that awarded in large, complex cases.

Although Plaintiffs' fees and costs are far and away more than they should have been, they were necessarily incurred because of Lubrizol's conduct. Defendants, though vigorously opposed to Plaintiffs' request for attorneys' fees and costs, have failed to challenge the reasonableness of the time spent or fees charged. It is interesting that Lubrizol's attorneys' fees and costs closely approximate Exxon's. The thrust of their opposition is that Plaintiff's application for attorneys' fees lacks sufficient specificity to allow this Court to make a fair award. While the summary sent to Defendant may not contain the detail desired, the Court has been given four bound volumes *in camera* of supporting material and billing records.

Plaintiff requests prejudgment interest at the rate of 8.5%, compounded daily, on any award of attorneys' fees. Under § 285 the Court is authorized to make such an award if it finds "bad faith or other exceptional circumstances. . . ." *Matis v. Spears*, 857 F.2d 749, 761 (Fed. Cir. 1988). The Court does not choose to award prejudgment interest.

Plaintiffs also seek a finding that they will be entitled to enhanced damages pursuant to 35 U.S.C. § 284 which provides that, in a patent infringement case, a trial court "may increase the damages up to three times the amount found or assessed." "The decision to increase damages is committed to the discretion of the trial judge. . . ." *Modine*, 917 F.2d at 543. However, "[a] finding of willful infringement merely *authorizes*, but does not *mandate*, an award of increased damages." *Rite-Hite Corp. v. Kelley Co., Inc.*, 819 F.2d 1120, 1126 (Fed. Cir. 1987). This was clearly an exceptional and hard-fought case with a great deal of personal animosity expressed by certain of Lubrizol's counsel. However, damages have not yet been determined, and the Court finds that a ruling on enhancement at this point in time would be premature.

Plaintiffs have also moved that sanctions be imposed against Defendant in addition to an award of attorneys' fees under 35 U.S.C. § 285 as a punishment for Lubrizol's abuse of the federal courts. Trial in this matter was bifurcated and is not yet complete. The Court finds that a review of the merits of Plaintiffs' motion at this point in the litigation could result in a duplication of efforts, and that a ruling on sanctions would best be made once litigation is complete. Therefore, the motion for sanctions is being denied at this time subject to being reurged after the conclusion of the trial on damages.

Finally, Plaintiff requests that the Court utilize its inherent power and award attorneys' fees and impose additional sanctions against Defendant to restore equity. The attorneys' fees and costs awarded pursuant to 35 U.S.C. § 285 are more than adequate to restore equity and hopefully ensure that such abuses are not repeated. Based on the above, it is

ORDERED that Plaintiffs' motion for attorneys' fees (entry 481) is GRANTED and Plaintiffs shall recover

reasonable fees in the amount of $17,890,557.38 and costs of $235,693.11. It is further

ORDERED that Plaintiffs' motion for sanctions (entry 481) is DENIED subject to being reurged after the trial on damages and a final judgment entered. It is further

ORDERED that Plaintiffs' motion for enhancement of damages is DENIED subject to being reurged. Again the Court finds it would be best to consider this motion once the trial process is complete. It is further

ORDERED that Plaintiffs' motion for recovery of attorneys' fees and related costs and expenses (entry 422) which was filed prior to trial is MOOT based on the ruling on the motion for attorneys' fees filed after the trial on liability. It is further

ORDERED that Plaintiff's motion to enforce this Court's instructions concerning submission of attorneys' fees (entry 497) is MOOT. It is further

ORDERED that the parties abide by the following schedule: all motions must be filed and discovery on damages completed by June 1, 1993; the joint pretrial order shall be filed on or before July 5, 1993 and is limited to a total of thirty pages; and the remainder of this case is set for docket call on August 30, 1993 in Courtroom 11B, United States Courthouse, 515 Rusk, Houston, Texas.

IT IS SO ORDERED.

Signed this 17th day of February, 1993 at Houston, Texas.

s/Norman Black
NORMAN W. BLACK
CHIEF JUDGE

ENTERED FEB. 17 1994

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

EXXON CHEMICAL PATENTS, INC., EXXON CORPORATION, and EXXON RESEARCH & ENGINEERING COMPANY,	§	
Plaintiffs,	§	
VS.	§	CIVIL ACTION
	§	NO. H-89-3203
THE LUBRIZOL CORPORATION,	§	
Defendant.	§	

MEMORANDUM AND ORDER

Following a bifurcation of this case, a final judgment on liability was signed on February 5, 1993, and an order signed on February 17, 1993 awarded Plaintiffs ("Exxon") attorneys' fees of $17,890,557.38 and costs of $235,693.11. Both the judgment on liability and order granting the motion for attorneys' fees were duly entered.

Now that a trial on the issue of damages has resulted in a jury verdict finding Exxon to have been damaged in the amount of $48,000,000, Exxon has moved for the award of attorneys' fees incurred after the liability trial; for prejudgment interest; and for enhanced damages under 28 U.S.C. § 284.

Both Exxon and Defendant ("Lubrizol") have thoroughly briefed the issues, and the Court heard oral arguments on February 11, 1994.

I. ENHANCEMENT OF DAMAGES

Exxon is seeking $144,000,000 in damages exclusive of attorneys' fees and costs as authorized by the laws relating to patents and not as a sanction.

Since the Court has already found willful infringement and bad faith, an award of enhanced damages is permitted. *Beatrice Foods Co. v. New England Printing and Lithographing Co.*, 923 F.2d 1576 (Fed. Cir. 1991). The statute, 28 U.S.C. § 284, which authorizes enhancement has been held to be a matter of discretion and to be based upon the nine factors in *Read Corp. v. Portec, Inc.*, 970 F.2d 816 (Fed. Cir. 1992):

1. WHETHER LUBRIZOL DELIBERATELY COPIED EXXON'S PATENT.

Despite Lubrizol's attempts to prove otherwise at trial, this case contained an unusual "smoking gun." After Exxon obtained its European patent for its copper-containing formulation, a Lubrizol memo with a copy of that patent contained language indicating a plan to "exploit" the process in the United States. The memo contains references to Lubrizol ingredients which mimic the Exxon components. Before Exxon showed that copper could be an anti-oxidant, Lubrizol considered it an oxidant, and the effectiveness of Exxon's formulation was a surprise.

2. WHETHER LUBRIZOL INVESTIGATED THE SCOPE OF EXXON'S PATENT AND FORMED A GOOD-FAITH BELIEF THAT IT WAS INVALID OR THAT LUBRIZOL'S FORMULATION DID NOT INFRINGE.

The jury in the liability trial did not believe Lubrizol's story that it relied on opinions of counsel. The opinions of both Dr. Boisselle and Mr. Pindar, Lubrizol experts, showed that as early as 1985, Lubrizol knew the problems caused by the Exxon patent and substantially ignored the advice of counsel. At trial, Lubrizol tried to argue that its products did not contain ashless dispersants and that Exxon's patent was directed to a composition defined by its final components rather than starting ingredients. This "in-the-pot" argument was contrary to Dr. Pindar's "infringement chart." Lubrizol did not even obtain Dr. Boisselle's opinion on the '890 patent until 18 months after the suit was filed.

3. LUBRIZOL'S CONDUCT AS A PARTY TO THE LITIGATION.

The Court's order of February 17, 1993 makes it clear that Lubrizol exceeded the bounds of adversarial litigating at every turn through the conclusion of the liability phase of this suit. They dragged into the case numerous red herrings, including attempts to smear Exxon with irrelevant engine-test problems; stretched the discovery to unreasonable lengths; and misrepresented the law to the Court.

4. SPECIFICATIONS OF LUBRIZOL'S DISCOVERY ABUSES.

Both the trial judge and the magistrate judge found that Lubrizol engaged in obstructive behavior prior to the liability trial. Counsel made unnecessary and lengthy objections and interjections during depositions and made so many excessive discovery requests that the cost and delay was substantial. Lubrizol's accounting expert, Mr. Miller, and their marketing

expert, Mr. Long, even contradicted each other on the proper method for analyzing cost data on comparable products. Lubrizol made many unnecessary objections, for example, complaining about a definition of "power of incumbency" when they had used that exact term in their own 1992 annual report.

The Court feels that Lubrizol's liability-trial counsel misrepresented patent law in their first proposed charge on the law and in their statement of the state of the law concerning a stay pending appeal. Exxon continuously showed that the statements of the law set out by Lubrizol in this District were diametrically opposed to Lubrizol's statement of the law in prior litigation with Exxon.

The Court finds that other examples set out in Exxon's damages trial brief were true. It was especially egregious for Lubrizol to make a key issue out of the fact that Exxon did not report every engine-test failure when that should never have been an issue. Both Exxon and Lubrizol were dropping certain failed tests, and it was legitimate for both to do so.

5. A COMPARISON OF RELATIVE SIZE OF THE PARTIES.

In considering how multiplying the damages would affect Lubrizol, the Court notes that Lubrizol sold over $333,000,000 of infringing products and had total revenues in 1992 of over $1.5 billion. Its net income was over $124,000,000.

6. THIS WAS NOT A CLOSE CASE.

The case was subjected to extremely thorough discovery and was presented to the jury fully and completely. The jury spent three hours finding willful infringement and bad faith, and the verdict was well supported by the evidence and the weakness of Lubrizol's defenses.

7. LUBRIZOL'S INFRINGEMENT INCREASED AFTER THE LIABILITY VERDICT.

Lubrizol sold infringing products for more than three years after suit was filed, and substantially increased its production after the verdict and before the injunction issued. That conduct further justifies enhancement. *Bott v. Four Star Corp.*, 807 F.2d 1567 (Fed.Cir.1986).

8. LUBRIZOL TOOK NO REMEDIAL ACTION.

Instead of switching to non-infringing formulations after suit was filed, Lubrizol continued to use Exxon's formulation and produced marketing material claiming that those products were the cornerstone of its product line.

9. LUBRIZOL WAS MOTIVATED TO HARM EXXON.

Lubrizol claimed at the trial on damages that it could have used non-infringing products instead of Exxon's formulation at little additional cost, but instead continued to infringe. If Lubrizol had not set out to harm Exxon, it would have not engaged in the costly and obstructive discovery and conflicting pleading of contradictory theories which this case contained. Lubrizol showed no motive for its conduct *other* than to harm its major competitor, the Paramins division of Exxon.

10. LUBRIZOL ATTEMPTED TO HIDE ITS MISCONDUCT.

After deciding to "exploit" Exxon's patent, Lubrizol tried to hide that conduct by seeking to exclude the memo by a motion in limine and by dropping copying from its proposed jury charge. It created an unsupportable theory that it had not copied because it used a different copper compound even though the U.K. patent application referenced the same copper compounds used by both Exxon and Lubrizol. Lubrizol's "in-the-pot" argument was a transparent attempt to conceal its

copying, and Lubrizol's entire confusing approach to claim interpretation was a subterfuge.

The Court finds that an enhancement of $48,000,000 is fair, reasonable, and appropriate.

II. ATTORNEYS' FEES AND COSTS

Exxon seeks recovery of $4,462,944 in attorneys' fees, expenses of $1,392,649 and taxable costs of $37,037 in addition to the sums already awarded by the Court's previous order.

Exxon has submitted as an exhibit an itemization of the hours and hourly rates of Baker & Botts and Fitzpatrick, Cella, Harper & Scinto. The former had seven partners, sixteen associates, and a number of legal assistants working on the damages phase of this case excluding the hours covered by the previous award and hours spent on the appeal of the liability judgment. The latter firm had four partners, six associates, and a number of paralegals working on the same phase also excluding hours covered by the previous award and hours spent on the appeal of the liability judgment. The schedule is attached to this order, and the Court finds that the hours and hourly rate were reasonable and necessary considering the complexity of the damages case; the delay and obfuscation by Lubrizol; and the importance of this litigation. The costs and expenses as well as taxable costs were reasonable.

The time records of both Exxon and Lubrizol are sealed and made a part of the record.

III. PREJUDGMENT INTEREST

Exxon is not seeking an award of prejudgment interest on its attorneys' fees, and the court is ordinarily to award prejudgment interest on actual damages. *Lam, Inc. v. Johns-*

Manville Corp., 718 F.2d 1056 (Fed.Cir.1983). Lubrizol has not shown an adequate basis for not awarding such interest.

The Court has wide latitude in determining the interest rate and the frequency of compounding. *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 939 F.2d 1540, 1545 (Fed. Cir. 1991).

The Court ueems it proper to apply the prime rate compounded quarterly. It is, therefore,

ORDERED that a final judgment reflect the results of this memorandum. It is

ORDERED that the trial transcripts no longer be restricted.

Signed this 15th day of February, 1994 at Houston, Texas.

s/Norman Black
NORMAN W. BLACK
CHIEF JUDGE

[Schedule of Attorney Hours and Hourly Rates Omitted.]

ENTERED FEB. 17 1994

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

EXXON CHEMICAL PATENTS, INC., EXXON CORPORATION, and EXXON RESEARCH & ENGINEERING COMPANY,	§	
Plaintiffs,	§	
VS.	§	CIVIL ACTION
	§	NO. H-89-3203
THE LUBRIZOL CORPORATION,	§	
Defendant.	§	

FINAL JUDGMENT ON DAMAGES

On November 18, 1993, the Jury returned its verdict on the Court's written question. On the basis of the Jury's finding, the evidence at trial, the findings of the Court and the applicable law,

It is ORDERED that

1. Plaintiffs shall recover actual damages of $48,000,000,

2. Plaintiffs shall recover enhanced damages of $48,000,000, and

3. Plaintiffs shall recover their attorneys' fees, expenses, and costs of court, of $5,892,630 in addition to the sums

already ordered on February 17, 1993 of $17,890,557.38 in fees, and $235,693.11 in costs, and

4. Plaintiffs shall recover $8,768,459 in prejudgment interest on the actual damages awarded by the Jury.

IT IS SO ORDERED.

Signed this 15th day of February, 1994 at Houston, Texas.

s/Norman Black
NORMAN W. BLACK
CHIEF JUDGE

United States Court of Appeals for the Federal Circuit

93-1275, 94-1309

EXXON CHEMICAL PATENTS, INC., EXXON CORPORATION and EXXON RESEARCH AND ENGINEERING CO.,

Plaintiffs-Appellees,

v.

LUBRIZOL CORPORATION,

Defendant-Appellant.

Appealed from: U.S. District Court for the Southern District of Texas

Judge Black

ORDER

A combined petition for rehearing and suggestion for rehearing in banc having been filed by the appellee, and a response thereto having been invited by the court and filed by the appellant, and the petition for rehearing having been referred to and acted upon by the panel that heard the appeal, and, thereafter, the suggestion for rehearing in banc, the response and a reply to the response, having been referred to the judges authorized to request a poll whether to rehear the appeal in banc, and a poll having been requested, taken, and failed, it is

ORDERED that the petition for rehearing be, and the same hereby is DENIED; and it is further

ORDERED that the suggestion for rehearing in banc be, and the same hereby is, DECLINED.

Circuit Judge Mayer concurs in a separate opinion.

Circuit Judge Clevenger, with whom Circuit Judge Plager joins, concurs in a separate opinion.

Circuit Judge Newman dissents in a separate opinion.

Chief Judge Archer, Circuit Judge Rich, and Circuit Judge Schall did not participate in the poll.

FOR THE COURT,
FRANCIS X. GINDHART, CLERK

February 23, 1996 By Diane M. Frye
Chief Deputy Clerk

cc: S. Leslie Misrock
William C. Slusser
Donald R. Dunner

MAYER, *Circuit Judge*, concurring.

This is another example of the predicted mischief of *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 34 USPQ2d 1321 (Fed. Cir.), *cert. denied*, 116 S. Ct. 40 (1995). Two judges have divined an interpretation of the claim that occurred to no one else in this extensive litigation. None of the parties or the trial court offered the interpretation that these two judges chose, and none of the extensive evidence about how those skilled in the art would understand the claim supports it. After *Markman*, apparently the meaning of a claim has very little to do with the parties' theories of the case and the record made in support, and everything to do with what at least two judges here prefer regardless of the record.

CLEVENGER, *Circuit Judge*, with whom PLAGER, *Circuit Judge*, joins, concurring in the court's denial of the petition for rehearing in banc.

Because more than twelve thousand pages will separate the decision of the court in this case, found at 64 F.3d 1553 (Fed. Cir. 1995), from the comments of Judges Newman and Mayer, we shall quickly bridge the gap to ease the mind of any concerned reader.

Judge Newman's general views on how to read the claims in suit reduce themselves to a simple proposition. Although Exxon's patent is on a specifically defined chemical product (a "lubricating oil composition suitable as a crankcase lubricant"), Judge Newman treats Exxon's claims differently, as if they were drawn to a formula (or recipe) for making whatever product results from mixing the ingredients named in the formula. Were such the case, Exxon would have won on its proofs in this case. Instead, Exxon sued Lubrizol on a chemical product claim. To win, Exxon had to prove that Lubrizol's product contains, in the specific amounts stated in the patent, the chemicals named in Exxon's patented formula.

Although Exxon proved that Lubrizol's product contained the named chemicals, it failed to prove that those chemicals are present in Lubrizol's product in the specific required amounts. So Exxon lost.

The basic claim interpretation theory adopted by the court was put forth by Lubrizol in its defense to Exxon's suit, as explained in the court's opinion, which amply demonstrates the respects in which our colleagues have misread the opinion and the record in this case.

NEWMAN, *Circuit Judge*, dissenting from the denial of rehearing *en banc*.

The court's decision in the case of *Exxon Chem. Patents, Inc. v. Lubrizol Corp.*, 64 F.3d 1553, 35 USPQ2d 1801 (Fed. Cir. 1995), creates important new law governing the claiming of chemical compositions. Adopted by split panel decision, it is gravely incorrect. It is incorrect as a matter of law, as a matter of chemistry, and as a matter of patent practice. The panel majority's new rule of "claim construction" will cast a cloud upon many thousands of existing patents, and major classes of chemical invention will confront unclear, unnecessary, confusing, expensive, and perhaps impossible scientific requirements.

The panel majority holds that a claim to a chemical formulation composition can not be infringed if there is interaction between any of the ingredients after they are added to the composition, such that any ingredient changes in chemical form or ratio from that listed in the claim. Thus any chemical change or interaction within the composition, even loose "complexing" as appears to happen between ingredients of this composition, renders the claim useless. The panel majority holds that it does not matter that the Lubrizol composition is identical to the claimed composition; the

purported changes inside the composition after it is made is held by the panel majority to negate infringement.

This is a new and incorrect rule of claim construction. It is not necessary to state the myriad interactive changes that occur in chemical solutions or dispersions, in order to describe this lubricant formulation clearly and unambiguously. Many thousands of chemical patents are written in the simple combination style here found fatally wanting. Consider Exxon's claim 1 shows in the margin,[1] a straightforward list

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[1] 1. A lubricating oil composition suitable as a crankcase lubricant in internal combustion engines comprising:

A. a major amount of lubricating oil;

B. a dispersing amount of lubricating oil dispersant selected from the group consisting of:

(1) ashless nitrogen or ester containing dispersant compounds selected from the group consisting of:

(a) oil soluble salts, amides, imides, oxazolines, esters, and mixtures thereof, of long chain hydrocarbon substituted mono- and discarboxylic acids or their anhydrides;

(b) long chain aliphatic hydrocarbons having a polyamine attached directly thereto; and

(c) Mannich condensation products formed by condensing about a molar proportion of long chain hydrocarbon substituted phenol with from about 1 to 2.5 moles of formaldehyde and from about 0.5 to 2 moles of polyalkylene polyamine; wherein said long chain hydrocarbon group is a polymer of a C_2 to C_3 monoolefin, said polymer having a molecular weight of from about 700 to about 5000;

(2) nitrogen or ester containing polymeric viscosity index improver dispersants which are selected from the group consisting of:

(a) polymers comprised of C_4 to C_{24} unsaturated esters of vinyl alcohol or of C_3 to C_{10} unsaturated mono- or dicarboxylic acid with unsaturated nitrogen containing monomers having 4 to 20 carbons.

(b) copolymers of C_2 to C_{20} olefin with C_3 to C_{10} mono- or dicarboxylic acid neutralized with amine, hydroxy amine or alcohols, and

of the ingredients of the composition, all of which are known lubricating oil additives except the copper component, which is listed at "D" in the claim.

Most or all chemicals interact to some extent in solution, wherein ions and molecules rearrange based on forces of various kinds. Under the court's new law, table salt dissolved in water will not be an adequate description of the composition for infringement purposes, since the sodium chloride molecule no longer "exists": in dissolution the sodium and chloride ions will have broken their bonds to each other, in interaction with molecules of water. For the Exxon lubricant composition the interactions in the pot were exceedingly complex. However, like salt in water, there is no uncertainty as to what was made and what was infringed. When the invention is adequately described and claimed by

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(c) polymers of ethylene with a C_3 to C_{20} olefin further reacted either by grafting C_4 to C_{20} unsaturated nitrogen containing monomers thereon or by grafting an unsaturated acid onto the polymer backbone and then reacting said carboxylic acid groups with amine, hydroxy amine or alcohol; and

(3) mixtures of (1) and (2); wherein when said lubricating oil dispersant (1) is present, then said dispersing amount of (1) is about 1 to 10 wt. %, and when said lubricating oil dispersant (2) is present, then said dispersing amount of (2) is from about 0.3 to 10 wt. %;

C. from about 0.01 to 5.0 parts by weight of oil soluble zinc dihydrocarbyl dithiophosphate wherein the hydrocarbyl groups contain from 1 to 18 carbon atoms;

D. an antioxidant effective amount, within the range of from about 5 to about 500 parts per million by weight, of added copper in the form of an oil soluble copper compound; and

E. a lubricating oil detergent additive which comprises at least one magnesium or calcium salt of a material selected from the group consisting of sulfonic acids, alkyl phenols, sulfurized alkyl phenols, alkyl salicylates and naphthenates, wherein said parts by weight are based upon 100 parts by weight of said lubricating composition and said weight % is based on the weight of said lubricating composition.

listing the ingredients of the composition, and is understood by persons of skill in the field of the invention, the law demands no more. To require inventors to identify and include in their claims the chemical interaction products formed in such a complex mixture is not necessary in order distinctly to state what the inventor regards as his invention. 35 U.S.C. § 112, ¶2:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

The court's holding that a chemical composition claim that is written by listing the ingredients can not be enforced against the identical composition made by combining the identical ingredients in the identical ratio, unless none of the ingredients interact when they are placed together, is simply bad law. It is without precedent, and it is contrary to the way that chemical formulation composition claims are understood within the chemical and the legal communities. This *sua sponte* transformation of the patent law does not bode well for this court's implementation of its *Markman* role as *de novo* construer of patent claims.

Despite the serious disruption of chemical patent-dependent activity flowing from this decision and the massive taint upon existing property rights, the court has declined *en banc* review. Thus I write to explain why I believe that the panel majority has made an error of major consequence, an error that transcends the interests of these parties and this patent.

Chemical Formulation Compositions Are Correctly Claimed by Their Ingredients

The standard way of claiming chemical compositions is by their ingredients. Naming the chemicals and their amounts is

the clearest, most accurate, and most comprehensive way of describing such inventions. Often there is no other way of describing chemical compositions. In Robert C. Faber, *Landis on Mechanics of Patent Claim Drafting* (3d ed. 1990) the author explains the pervasiveness of this type of claim in chemical inventions:

> As in the other classes, *most composition claims are combination claims* except where a new compound or molecule per se is claimed.
>
> ****
>
> Composition of matter claims *list the chemical ingredients (compounds, elements, or radicals) making up the composition* or compound. The ingredients or elements may be claimed narrowly (specific named components), with intermediate scope (a group of similar elements functionally equivalent), or broadly as to function performed, where the prior art permits. Where necessary to novelty, etc., the proportions or other conditions or parameters of the compound are stated, usually in ranges of concentration of ingredients.

Id. at 145, 148 (emphasis added). Chemical compositions that are mixtures of ingredients are routinely claimed by listing the ingredients. Such a composition is easy to describe with precision, easy to search and to examine for patentability, easy to understand, and unambiguous in content and scope. Whether there is interaction among the ingredients after they are placed in the container does not affect the specificity of the description of what has been invented. It is not necessary to know what physical or chemical interactions occur in the container in order to describe this invention, which resides in the combination of listed ingredients.

The law requires that the claims "reasonably apprise those skilled in the art both of the utilization and scope of the invention," and that "the language is as precise as the subject

matter permits." *Shatterproof Glass Corp. v. Libbey-Owens Ford Co.*, 758 F.2d 613, 624, 225 USPQ 634, 641 (Fed. Cir. 1985). That requirement was plainly met by the claims in suit, for they were written as lubricant formulators would write them and understand them, by listing the ingredients of the composition. Whatever the scientific nature of the chemical interactions inside the container, the established and probably only way of describing such formulations is by their ingredients. The court creates a scientific burden that is totally unnecessary and perhaps impossible[2] to meet. There was extensive evidence at trial, presented by witnesses on behalf of both Exxon and Lubrizol, concerning what happens when these ingredients are put in the same container. Noted scientists debated the issue. The trial judge recognized that it was not possible to know what was happening inside the pot.

The court's holding that such claims are not infringed if changes occur within the composition after the ingredients are combined, simply means that such compositions can no longer be patented in this way. The court's requirement that the patentee must state in the claim the products of chemical interaction that occur in the mixing pot, simply means that failure to do so leaves a useless patent that can not be enforced against the identical composition made from the identical ingredients in the identical ratios.

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[2] Exxon's expert witness, Dr. Ingold, testified as to the scientific possibility of proving what the panel requires:

> Q. Do you know of any other technique which would allow a chemist to determine precisely what is going on with respect to these hand-holding type interactions [the witness' description of the loose bonds the parties referred to as complexing] in a modern motor oil package?
>
> A. Dr. Barrett, there is no such technique available today, nor is there any combination of techniques available today that would let one say what was present after you have mixed all four of those components.

The court's ruling will impose disorder and uncertainty upon many fields of applied chemistry, for this claim form is the standard way of claiming new formulation inventions. The treatises teach the routine nature of such claims, recognizing that the components of a chemical composition are not a "mere aggregation," but cooperate in "joint action":

> A composition or product is patentable when it involves (1) a new and useful result and this result is a product of the combination and *not the mere aggregation* of several results; (2) a different result in *the combined forces* or processes from that given by their separate parts and a new result is produced by their union; (3) a result which is not the mere aggregate of separate contributions but is due to the *joint and cooperating action* of all the elements; and (4) several elements which produce by their *joint action* a new and useful result.

3 Anthony W. Deller, *Patent Claims* (2d ed. 1971) § 456, at 48 (citing *Colgate-Palmolive Co. v. Carter Products, Inc.*, 230 F.2d 855 (4th Cir. 1956)) (emphasis added). Deller's and other treatises provide many examples of such compositions, all claimed by listing their ingredients.

I conducted a rough survey in the Official Gazette of the Patent and Trademark Office for December 26, 1995, which announced the issuance during the preceding week of 608 patents classified as "chemical." About a hundred of these patents were for chemical compositions that were claimed by listing their ingredients. For example, there were patents on a pollution control composition, a dye transfer inhibiting composition, a shampoo composition, a paint stripper composition, a polyol composition for polyurethane foams, a cold water detergent composition, a granular detergent composition, a wood preservative, an adhesive composition, photosensitive and radiation-sensitive resin compositions, an x-ray film developer composition, a radiation-absorbing glass

composition, and many more. All were claimed by listing the ingredients.

The invention of all such compositions is well described by the ingredients that are combined. Whatever interactions occur within the container holding the composition is irrelevant to the specificity and clarity of the claim and its understanding by persons in the field of the invention. The patent statute requires that the subject matter be described so that persons in the field know what has been invented. 35 U.S.C. § 112, ¶1:

> The specification shall contain a written description of the invention and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

It is basic chemistry that most organic and inorganic molecules when placed in solution interact in various ways. Such interactions may produce improved properties, thus providing the commercial value that inventors seek to secure through the patent system. Indeed, as stated by Deller in *Patent Claims, supra,* the patent office will not grant a patent on compositions where the properties are simply an aggregation of the known properties of the separate ingredients.

It was interesting to learn that the distinguished chemists who testified for both sides did not know with scientific certainty the interactions occurring in this complex lubricant formulation. The following exchange occurred during argument to the trial judge concerning "claim construction":

Exxon Counsel: . . . We have Dr. Ingold's testimony about them [the chemical ingredients] coming together and breaking apart. We have Dr. Schroeck admitting that was true. But under cross, he admitted yes, they break apart. These phantom compounds that nobody can find.

****

LeSuer, although Mr. Adelman didn't remember it, says I don't know exactly what this is but it is definitely a stable linkage.... That is totally different from Dr. Schroeck saying that they are breaking apart all the time and Dr. Cotton saying these compounds are going back and forth, they are complexing and uncomplexing.

****

District Court: ...I wanted to know if there is any way to find out what is in that composition, and you can't. Only a fool would try.

A lubricant composition described and claimed by listing the ingredients is appropriate to an invention that is indeed a combination of ingredients. A patent attorney testified that he has seen "literally thousands of lubricant patents" described and claimed, as in the Exxon patent in suit, by listing the ingredients. The panel majority's new requirement is contrary to chemical and practical reality, as is its speculation that Exxon could not prove infringement even under the court's new theory: the reason given for denying Exxon the chance to do so. Chemists know that all chemical reactions have a reaction time and a reaction threshold. Chemists understand the concepts of chemical reactivity and measurement of activity coefficients. Studies of chemical equilibria and thermodynamic principles as applied to chemical reactions, the basics of ionic forces in solution, and principles such as the

Law of Mass Action (relating chemical equilibrium and concentration), are elementary tools of classical chemistry. Chemists know that when chemicals are placed in solution or dispersion they interact with the solvent or dispersant; they may form new bonds, or respond to attractive or repulsive forces, or form loose or tight complexes, or be subject to a variety of other interactions, often a combination of interactions in dynamic equilibrium, in a constantly fluctuating swirl of chemical complexity. Dr. Ingold explained these interactions at the trial:

> And the thing to try and remember about this is these weak [interactions] can break apart quite easily. So that this association between the dispersants and some molecule X can simply come apart and give you the detergent again plus the molecule X in free solution. And X can, of course, recombine. And this can happen thousands of millions of times. You don't in any way destroy the molecule in the dispersant nor do you affect X.

He further explained these interactions as they occur among the constituents of the additive packages:

> Q Dr. Ingold, do all of these components interact in the same associated way that we have discussed for the ZDDP and the ashless dispersant? Do they all interact that way?
>
> A Yes, Dr. Barrett, they interact with one another. They also interact with themselves. Everything is interacting with everything else. It is associating. They are associating and breaking up. It is a grand mixture as the molecules come together and associate and then fall apart again and — or take a new partner and reassociate.

Dr. Cotton, Lubrizol's chemistry expert, analogized these kinds of bonds to a square dance, where molecules release one

partner and reattach to another and continue releasing and reattaching in a condition of equilibrium.

When the invention is the combination of ingredients, the occurrence of interactions in the pot does not defeat the adequacy of the description of the invention to persons in the art. The patenting of formulation compositions by identifying the components of the composition is legally sound, simple, and serviceable, and permits infringement or noninfringement to be readily determined, for it is necessary only to ascertain whether the listed ingredients are combined in the listed ratios.

The Patent Grant Encompasses Making, Using, or Selling the Patented Invention

The patent act states that "whoever without authority makes, uses, offers to sell or sells any patented invention," 35 U.S.C. § 271(a), infringes the patent. That statutory requirement is satisfied when the "recipe" of the claims is followed. Thus the panel majority has erred in applying the law, for the patented composition is made when the ingredients are combined.

The Exxon specification states that "modern lubricants are complex mixtures of various additives each serving a particular purpose." Col. 1 line 67 to col. 2 line 5. The specification describes the purpose of the various additives that are listed in the claim. It was testified at trial that the concern of lubricant formulators is "what goes into the pot," in the words at trial of Lubrizol's formulation chemist Dr. Salomon. An inventor need not understand the scientific mechanism in order to place an invention into the patent system. *See Newman v. Quigg*, 877 F.2d 1575, 1581, 11 USPQ2d 1340, 1345 (Fed. Cir. 1989) (observing that "it is not a requirement of patentability that an inventor correctly set forth, or even know, how or why the invention works"); *Fromson v. Advance Offset Plate, Inc.*, 720 F.2d 1565, 1570, 219 USPQ 1137, 1140 (Fed. Cir. 1983) ("[I]t is axiomatic that an

inventor need not comprehend the scientific principles on which the practical effectiveness of his invention rests."). The suggestion by the panel majority that Exxon's patent attorney did not know how to write claims is misdirected. These claims are written in the clearest, simplest, and most accurate way in which a formulation can be described: by listing the ingredients. I can discern no justification for the court's departure from this long-standing and reasonable claim practice.[3]

Indeed, the panel majority's concurring opinion suggests that if Exxon's ingredients remain sufficiently uncomplexed or unreacted for a period of time after mixing (an hour? a minute? a nanosecond?) the claim would be infringed even on the majority's interpretation. However, the majority denied Exxon the opportunity to prove such fact.

Justice Requires Remand When this Court Creates a New Law of Claim Construction

Having adopted a claim construction that neither party proposed and that is without legal precedent, the panel majority nonetheless declined the patentee's request for remand so that the patentee could present factual evidence or argument relevant to this new "law" as applied to this case.

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[3] The panel majority recognized that compliance with its new "law" of claim construction may not be scientifically feasible, and suggested that claim-writing gimmickry should have been invoked. Thus the panel majority proposes that a patentee might overcome the court's newly created obstacles with a "product-by-process" claim — although this invention is neither a process nor a product, but a mixture of ingredients to form a composition. I will not speculate on whether the court's ruling can be made less pernicious by creative claim-writing, or how the patent examining process will implement this new law governing composition claims.

Fair procedure has been compromised by the court's refusal to remand to the trial court for the presentation of evidence or argument on the new factual issues raised by this court's new law of claim construction. *See Weade v. Dichmann Wright & Pugh Inc.*, 337 U.S. 801, 808-09 (1949) (remand required to consider alternative theory of liability).

It is inappropriate for the appellate court to make its own scientific finding that such proof is not possible on the court's new criterion. Although the district court stated during discussion of the jury charge that what is in the composition can not be determined, *see supra*, apparently there was no discussion concerning whether there was a transient existence in the mixture of the uncombined ingredients, for that was not an issue. The district court did not discuss whether the "complexing and uncomplexing" described by Dr. Cotton, and the other interactions postulated by other witnesses, might permit the patentee to prove that the ingredients have at least a transient existence in the ratios stated in the claim. The rate of association or complexing is not discussed in the portion of the record provided us, and does not appear to have been at issue.

As a matter of procedural justice, a litigant is entitled to present its case when the court changes the law. *See Neely v. Martin K. Eby Constr. Co.*, 386 U.S. 317, 325 (1968) (appellate court "may not order judgment where ... the record reveals a new trial issue which has not been resolved"); *Brinley v. Commissioner of Internal Revenue*, 782 F.2d 1326, 1336 (5th Cir. 1986) (justice requires the opportunity to present evidence in light of new legal rule established on appeal). Although the appellate court need not remand for a futile trial, *Boyle v. United Technologies Corp.*, 487 U.S. 500, 513-514 (1988), it is apparent from the record that such a condition does not here exist. Thus, on the claim

construction of the panel majority,[4] the patentee is entitled to develop the facts for application of our new law. Even as this court declined to correct *en banc* the panel's claim construction, the case should have been remanded for application of this new rule of law to the evidence. Thus, respectfully, I dissent from the court's denial of rehearing *en banc*.

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[4] I can not reconcile the Response's suggestion of today that the theory it adopted was presented at the trial, with the statement in the majority opinion "that Exxon's preferred claim interpretation is incorrect, and that Lubrizol's is only partly correct." 64 F.3d at 1555, 35 USPQ2d at 1802.

5,478,385

SEALING COMPOSITIONS

James Washbourne, Long Handborough, England, assignor to Oxford Brookes University, Oxford, England **Filed Jan. 18, 1994, Ser. No. 183,409**
Claims priority, application United Kingdom, Jan. 15, 1993, 9300753
Int-Cl.[6] C09K *3/10;* C09D *191/06; 191/08*
U.S. Cl. 106--33 **19 Claims**

1. A sealing composition, comprising:

10-55% by weight of: a petroleum based wax; or hydrogenated vegetable oil; hydrogenated animal or fish oil, fat, or grease; or polyisobutane; or combinations thereof;

0.5-15% by weight of a lipophilic emulsifier;

an emulsion stabilizer or thickener;

a water gellant/viscosifier;

a void-blocking additive;

a corrosion inhibitor in an amount sufficient to minimize the possibility of corrosion of ferrous metallic compounds with which the sealing composition makes contact; and

at least 20% by weight water, in an amount sufficient to inhibit combustion of the sealing composition.

Reproduced from: 1181 Off. Gaz. Pat. Office 2472 (1995).

5,478,389

POLLUTION REMEDIAL COMPOSITION AND ITS PREPARATION

Richard E. Loomis, Texarkana, Ark., assignor to Loomis Family Trust, Texarkana, Ark.

Continuation of Ser. No. 766,424, Sept. 25, 1991, abandoned.

This application Apr. 28, 1994, Ser. No. 234,273

Int. Cl.[6] **C09K** *3/32;* **B01J** *13/00;* **C04B** *18/04;* **C11D** *3/36*

U.S. Cl. 106--630 **27 Claims**

1. A pollution remedial composition comprising:

from about 40 to about 75 volume % of a soluble silicate;
from about 0.25 to about 5 volume % of a surfactant;
from about 1 to about 5 volume % of a polyol; and
the remainder water.

26. A pollution remedial composition comprising:

about 57.5 volume % of sodium silicate;
about 0.5 volume % of an ester of organo-phosphoric acid; about 1.5 volume % of ethylene glycol;
about 0.25 weight % of sodium chloride;
about 0.25 weight % of citric acid; and
the remainder water.

Reproduced from: 1181 Off. Gaz. Pat. Office 2473 (1995).

5,478,489

DYE TRANSFER INHIBITING COMPOSITIONS COMPRISING BLEACHING AGENTS AND A POLYAMINE N-OXIDE POLYMER

Abdennaceur Fredj, Brussels, Belgium; James P. Johnston, Overijse, United Kingdom, and Christiaan A. J. Thoen, Haasdonk, Belgium, assignors to The Procter & Gamble Company, Cincinnati, Ohio

Filed Jan. 17, 1995, Ser. No. 373,197

Claims priority, application European Pat. Off., Jul. 15, 1992, 92202168; Nov. 6, 1992, 92870181; May 26, 1993, 93201198; Jun. 9, 1993, 93870195

The Portion of the term of this patent subsequent to Oct. 17, 2012, has been disclaimed.

Int. Cl.[6] **C11D** *3/37;3/39;3/395;* **D06L** *3/02*

U.S. Cl. 252--99 **15 Cl**

1. A dye transfer inhibiting composition for use in aqueous wash solutions comprising

(a) a dye transfer inhibiting amount of poly(4-vinylpyridine-N-oxide) having ratio of amine to amine N-oxide of from about 2:3 to about 1:1,000,000; and

(b) a cleaning effective amount of a bleaching agent selected from percarboxylic acids, halogen bleaching agents, perborates, persulfates, percarbonates, peroxydisulfates, perphosphates, peroxyhydrates, bleach activators, hydrogen peroxide-generating enzymes, enzymes, non-oxygen-type bleaching agents, or mixtures thereof.

8. A detergent composition which comprises a dye transfer inhibiting composition according to claim **1** further comprising one or more of the following ingredients: surfactants, builders, chelants, suds suppressor, soil release agents, antiredeposition agents, optical brighteners, abrasives,

bactericides, tarnish inhibitors, coloring agents, perfumes, or mixtures thereof.

Reproduced from: 1181 Off. Gaz. Pat. Office 2504 (1995).

5,478,494

POLYOL COMPOSITION HAVING GOOD FLOW AND FORMIC ACID BLOWN RIGID POLYURETHANE FOAMS MADE THEREBY HAVING GOOD DIMENSIONAL STABILITY

Thomas B. Lee, Southgate; Thomas L. Fishback, Gibraltar;
Curtis J. Reichel, Southgate, and Donald L. Christman, Grosse Ile, all of Mich., assignors to BASF Corporation, Mt. Olive, N.J.

Filed: Sep. 22, 1993, Ser. No. 125,464
Int. Cl.[6] C08J *9/08;* **C08G** *18/18;18/20;18/48*
U.S. Cl. 252--182.25 **45 Claims**

1. A polyol composition comprising a polyol component, said polyol component comprising:

a) a polyoxyalkylene polyether polyol having an equivalent weight of 130 or less, and an average functionality of 3.1 or greater;
b) a polyoxyalkylene polyether polyol having an average functionality of 1.8 to less than 3.1, a viscosity of 800 cP or less at 25°C., and an equivalent weight within the range of from greater than 130 to 1500;
c) a polyoxyalkylene polyether polyol having an average functionality of greater than 3.1 and an equivalent weight of greater than 130.

Reproduced from: 1181 Off. Gaz. Pat. Office 2505 (1995).

5,478,552

LIQUID COSMETIC COMPOSITION

Tomoko Hasegawa, Maebashi, Japan, assignor to Mitsubishi Pencil Kabushiki Kaisha, Tokyo, Japan

Filed: Jul. 7, 1994, Ser. No. 271,857

Claims priority, application Japan, Jul. 16, 1993, 5-177031

Int. Cl.[6] **A61K** *7/021;7/025;47/00*

U.S. Cl. 424--63 **9 Claims**

1. A liquid cosmetic composition comprising from 0.2 to 50 parts, by weight, of trimethylsiloxysilicic acid, from 5 to 80 parts, by weight, of a volatile silicone, from 1 to 20 parts, by weight, of a sucrose fatty acid ester selected from the group consisting of monoesters, diesters, triesters, tetraesters, pentaesters, hexaesters, heptaesters, octaesters, and mixtures thereof the fatty acids in said esters being selected from saturated and unsaturated fatty acids having from 1 to 28 carbon atoms; and a member selected from the group consisting of silicic anhydride having hydrophobic-treated surface, a clay mineral having organic-treated surface and mixtures thereof, the liquid cosmetic composition having a viscosity of 100,000 cp or less.

Reproduced from: 1181 Off. Gaz. Pat. Office 2523 (1995).

5,478,556

VACCINATION OF CANCER PATIENTS USING TUMOR-ASSOCIATED ANTIGENS MIXED WITH INTERLEUKIN-2 AND GRANULOCYTE-MACROPHAGE COLONY STIMULATING FACTOR

Robert L. Elliott, 17310 Masters Pointe Ct., Baton Rouge, La. 70810 and Jonathan F. Head, 6144 Hagerstown Dr., Baton Rouge, La. 70817

Filed: Feb. 28, 1994, Ser. No. 202,516

Int. Cl.[6] **A61K** *45/05;39/00;* **C07K** *14/535;14/55*

U.S. Cl. 424--852 **3 Claims**

2. A breast tumor vaccine comprising:

a suspension of a tumor associated antigen from a human breast tumor;

one million colony forming units of granulocyte-macrophage colony stimulating factor; and

ten thousand international units of interleukin 2.

Reproduced from: 1181 Off. Gaz. Pat. Office 2524 (1995).

5,478,565

TREATMENT OF SINUS HEADACHE

Navin M. Geria, Warren, N.J., assignor to Warner-Lambert Company, Morris Plains, N.J.

Filed: Mar. 27, 1990, Ser. No. 500,610

Int. Cl.[6] A61K *9/12*

U.S. Cl. 424--434 **13 Claims**

1. A topically applicable nasal composition capable of relieving mammalian sinus headache which comprises (i) an anaesthetically effective amount of an acid addition salt of dyclonine or pramoxine and (ii) an adrenergically effective amount of an acid addition salt of a sympathomimetic amine decongestant selected from the group consisting of an arylalkylamine, imidazoline and a cycloalkylamine incorporated in a pharmaceutically acceptable carrier.

Reproduced from: 1181 Off. Gaz. Pat. Office 2525 (1995).

5,478,587

DESSERT COMPOSITION

Armand Mingione, Escondido, Calif., assignor to Henry G. Kohlmann

Filed: Aug. 20, 1993, Ser. No. 109,707

Int. Cl.[6] A23G *9/02*

U.S. Cl. 426--565 **34 Claims**

1. A non-dairy composition useful in the preparation of a frozen dessert containing a non-dairy creamer comprising:

(a) from about 14.00% to 78.26% by dry weight of a non-dairy creamer,

(b) from about 3.48% to 52.17% by weight of a sweetener,

(c) from about 2.5% to 42.98% by weight of a filler,

(d) from about 0.14% to 6.96% by weight of a stabilizer, and

(e) from about 0.01% to 0.29% by weight of a smoother.

Reproduced from: 1181 Off. Gaz. Pat. Office 2531 (1995).

5,478,706

ALKALINE BLACK-AND-WHITE DEVELOPER FOR SILVER HALIDE PHOTOGRAPHIC MATERIAL

Carlo Marchesano; Filippo Faranda, both of Savona, and Franco Buriano, Carcare, all of Italy, assignors to Minnesota Mining And Manufacturing Company, St. Paul, Minn.

Contination of Ser. No. 858,313, Mar. 25, 1992, abandoned.

This application Mar. 3, 1994, Ser. No. 206,196

Claims priority, application Italy, Apr. 3, 1991 MI91A0925

Int. Cl.[6] G03C *5/46*

U.S. Cl. 430--486 **21 Claims**

1. An alkaline black-and white x-ray film photographic developer composition having a pH of greater than 10 comprising:

(1) 2 to 100 grams per liter of at least one black-and-white developing agent,

(2) 0.1 to 20 grams per liter of at least one black-and-white auxiliary developing agent,

(3) 0.01 to 5 grams per liter of at least one antifoggant,

(4) 1 to 60 grams per liter of at least one sequestering agent,

(5) a sulfite antioxidant capable of generating 0.1 to 1.25 moles per liter of sulfite ions,

(6) at least one buffering agent in a molar ratio of greater than 0.5:1 with respect to said sulfite antioxidant,

(7) a tone agent,

(8) a tone promoting agent, wherein said tone agent is 1 x 10^{-3} to 2 moles per liter of a primary organic amine compound and said tone promoting agent is 0.01 to 50 mMoles per liter of a silver halide solvent.

Reproduced from: 1181 Off. Gaz. Pat. Office 2560 (1995).

RULE 29.6 LISTING

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ASHCO Ltd.
Abu Dhabi Petroleum Company Limited
Ace Polymer Co., Ltd.
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Aditivos Orinoco, C. A.
Adria-Wien Pipeline Gesellschaft mit beschraenkter Haftung
Advanced Elastomer Systems Do Brasil Ltda.
Advanced Elastomer Systems Japan Limited
Advanced Elastomer Systems Limited
Advanced Elastomer Systems Marketing Pte. Ltd.
Advanced Elastomer Systems NV/SA
Advanced Elastomer Systems Singapore Pte. Ltd.
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Asakawa Sekiyu K.K.
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Canada Imperial Oil Limited
Canadian Reserve Oil & Gas Ltd.
Castle Peak Power Company Limited
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Cerafilter Systems, Inc.
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Changi Airport Fuel Hydrant Installation Pte. Ltd.
Changi Into-Plane Services (Pte) Ltd.
Chuo Sekiyu Hanbai K.K.
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Compania Minera Disputada de Las Condes S.A.
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Computer Centrum Groningen B.V.
Cynthia Gas Gathering Company Limited
DFTG Deutsche Fluessigerdgas Terminal GmbH
Daihatsu Sekiyu K.K.
Daito Gas K.K.
Depot Petrolier du Gresivaudan
Depots Petroliers de la Corse
Depots de Petrole Cotiers
Deudan-Holding GmbH
Deutsche Advanced Elastomer Systems GmbH
Deutsche Erdgas Transport G.m.b.H.

Deutsche Transalpine Oelleitung G.m.b.H.
Devon Estates Limited
Disma S.r.l.
Dixie Pipeline Company
E S F Limited
EPDMCO, L.P.
ETD Tankdienst Gesellschaft Duesseldorf GbR
Eagle Kenso K.K.
Eagle Reinsurance Co. Ltd.
East Asia Response Private Limited
East Texas Salt Water Disposal Company
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Eco Lubrifiants
Eiko Sekiyu K.K.
Elwerath Erdgas und Erdoel GmbH, Hannover
Elwerath Erdoel und Erdgas AG
Emirates National Chemicals Company Ltd.
Emori Sekiyu K.K.
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Esso (Overseas) Pension Trust Limited
Esso Antilles-Guyane, S. A.
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Esso Exploration and Production Angola Inc.
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Esso Lub'Services
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Esso Societe Anonyme Francaise
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Esso Technologies et Services (E.T.S.)
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Exxon Asset Funding Company
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Exxon Chemical Middle East Holdings Inc.
Exxon Chemical Paraffins Limited
Exxon Chemical Polymeres SNC
Exxon Chemical S.A.
Exxon Mobile Bay Limited Partnership
Exxon de Colombia S.A.
F.T. Giken Kabushiki Kaisha
Federated Pipe Lines (Western) Ltd.
Federated Pipe Lines Ltd.
Ferngas Nordbayern G.m.b.H.
Ferngas Salzgitter GmbH
Fernkaelte Geschaeftsstadt Nord G.b.R.
Flughafen Schwechat Hydranten-Gesellschaft
Fuji Kogyo K.K.
Full Cycle Plastics Pty. Ltd.
G16a (Groep) B.V.
GVOE Gebinde-Verwertungesellschaft der
Mineraloelwirtschaft
Gas Direct Limited
Gasunie Engineering B.V.
Gasunie Warmte/Kracht Emmen B.V.
General Bussan K.K.
General Highway K.K.
General Petrochemical Industries Limited
General Sekiyu K.K.
General Sekiyu Okinawa Hanbai K.K.
General Sekiyu Overseas, Ltd.
General Shipping Co. Ltd.
General Unyu Kabushiki Kaisha
George Lavera

Ges. fur Mineraloelveredlung und Distribution Rhaesa mbH
Gewerkschaft Brassert Erdoel und Erdgas GmbH
Gewerkschaft Gute Hoffnung Erdgas und Erdoel GmbH
Gewerkschaft Kuechenberg Erdgas und Erdoel GmbH
Glen Park Gas Pipe Line Company Limited
Grande Ecaille Land Company, Inc.
Great Lakes Response Corporation of Canada
Groupement Immobilier Petrolier
Groupement Petrolier Aviation
Groupement Petrolier de Nantes (G.P.N.)
Groupement Petrolier de Saint-Pierre des Corps (G.P.S.P.C.)
Groupement Petrolier de la Cote D'Azur
Groupement Petrolier du Finistere G.I.E.
Groupement Petrolier du Val-de-Marne (G.P.V.M.)
Groupement d'Exploitation du Depot de Reception de Chennevie
Guam Response Services Ltd.
Hambrecht & Quist Environmental Technology
Hamburger Gaswerke GmbH
Hannoversche Erdoelleitungs-G.m.b.H.
Hanshin Kyowa Sekiyu K.K.
Heinrich Schneider Spedition GmbH
Hiroshima General Gas Juten Kabushiki Kaisha
Hoei Sekiyu K.K.
Hokkai Sanshi Co., Ltd. (Chemical)
Hokuyu Sekiyu K. K.
Hong Kong Pumped Storage Development Company, Limited
Hong Kong Response Limited
Houston Regional Monitoring Corporation
Hydrant Refuelling System, S.A.
Hydranten-Betriebs-Gesellschaft, G.b.R.
Hydrierwerke Poelitz Aktiengesellschaft
Imperial Oil (an Ontario General Partnership)
Imperial Oil Limited
Imperial Oil Resources N.W.T. Limited
Imperial Oil Resources Ventures Limited

Imperial Oil Resources an Alberta limited partnership
Industria Acqua Siracusana S.p.A.
Industry Promotion Enterprises Limited
Iraq Petroleum Company, Limited
Japan Butyl Company Limited
Jersey Nuclear-Avco Isotopes, Inc.
K. K. Momose Shiojiri Stand
K. K. Toresen
K.K. Aizu General
K.K. Auto
K.K. Daimaru
K.K. Eastern Gas Terminal
K.K. General Gas Butsuryu Kansai
K.K. General Gas Butsuryu Kanto
K.K. General Sekiyu Hanbaisho
K.K. Genet
K.K. Genetech
K.K. Genex
K.K. Heian Sekiyu
K.K. Kyoei Shosha
K.K. Marugo Izumasa Shoten
K.K. Marutaka Sekiyu
K.K. Momose Sekiyu
K.K. Standard Sekiyu Osaka Hatsubaisho
K.K. Tama General
K.K. Toko
K.K. Uwano Sekiyu Shokai
K/S Statfjord Transport A/S & Co.
KX Industries, L.P.
Kabushiki Kaisha Sankyo Plastics
Kabushiki Kaisha Serubisu
Kai Tak Refuellers Company Limited
Kansai Chuo Sekiyu K.K.
Kanto Kygnus K.K.
Karlsruhe-Stuttgart Rohrleitung Gesellschaft mbH
Kawasaki Kygnus Sekiyu Hambai Kabushiki Kaisha

Keiyo Sekiyu Hanbai K.K.
Kemcor Australia Pty. Ltd.
Kemcor Elastomers Ltd.
Kemcor Olefins Ltd.
Kemcor Plastics Pty. Ltd.
Kent Gas Company Limited, The
Kenya Petroleum Refineries Limited
Kibo Sekiyu Hanbai K.K.
Kimura Sekiyu Kabushiki Kaisha
Kinwa Sekiyu K.K.
Kobe Standard Sekiyu K. K.
Korea Perchem Company Limited
Kosxon Chemical Company Limited
Kowa Sekiyu K.K.
Kumho E.P. Rubber Co., Ltd.
Kygnus Ekika Gas Kabushiki Kaisha
Kygnus Kosan Kabushiki Kaisha
Kygnus Sekiyu K. K.
Kygnus Sekiyu Seisei Kabushiki Kaisha
Kygnus Trading Kabushiki Kaisha
Kyushu Eagle K.K.
L-Net East K.K.
L-Net West K.K.
L12A (Groep) B.V.
L12B/L15B (Groep) B.V.
L14 (Groep) B.V.
L15A (Groep) B.V.
L2 (Groep) B.V.
L5a (Groep) B.V.
LEAG Aktiengesellschaft fuer luzernisches Erdoel
Les Docks des Petroles d'Ambes
Les Emulsions de Feyzin et du Dauphine
Liants Routiers de la Vallee de la Loire (LRVL)
Liants Routiers de la Vallee du Rhin (L.R.V.R.)
Liants Routiers du Gard (L.R.G.)
Lilac Sekiyu Kabushiki Kaisha

Lily Sekiyu K.K.
Lithcon Petroleum International (Bahamas) Inc.
Lithcon Petroleum Taiwan Inc.
MEGAL FINCO
MEGAL GmbH
Maasvlakte Olie Terminal C.V.
Maasvlakte Olie Terminal N.V.
Magota Sekiyu K.K.
Mainline Pipelines Limited
Malaysian Energy Chemical & Services Sdn Bhd
Manchester Airport Storage and Hydrant Company Limited
Marugo Gas K.K.
McCann Plastics Inc. (Chemical)
McColl-Frontenac Inc.
McColl-Frontenac Petroleum Inc./Petroliere McColl-Frontenac
Meiji Sekiyu K.K.
Mikawa Bussan K.K.
Mitake Unso K.K.
Mittelrheinische Erdgas Transport Gesellschaft mit beschrank
Mode Wheel Property Limited
Montreal Pipe Line Limited/Les Pipe-Lines Montreal Limitee
Mount Thorley Coal Loading Limited
Multi Tank Card B.V.
Mytex Polymers (General Partnership)
N. V. Nederlandse Gasunie
NAM - K 14 B.V.
NAM - K 15 B.V.
NAM - K 7 B.V.
NAM Pipeline B.V.
NAM-K17 B.V.
NAM/CLOMS - K 8/K 11 B.V.
NAM/CLOMS - L 13 B.V.
NAM/Mobil M9a B.V.
NPC Services, Inc.
Nakabayashi Sekiyu K.K.
Nalco/Exxon Energy Chemicals Argentina S.A.

Nalco/Exxon Energy Chemicals Brasil LTDA.
Nalco/Exxon Energy Chemicals Colombia S.A.
Nalco/Exxon Energy Chemicals Limited
Nalco/Exxon Energy Chemicals, Inc.
Nalco/Exxon Energy Chemicals, L.P.
Name: EDE
Name: IORL
Nansei Oil Terminal K.K.
Nansei Sekiyu Kabushiki Kaisha
Nanseki Kaihatsu K.K.
Near East Development Corporation
Nederlandse Aardolie Maatschappij B. V.
Netra AG
Netra GmbH
New Cure, Inc.
Newcastle Coal Shippers Pty. Limited
Nichiei Kogyo Kabushiki Kaisha
Nichimo Oil (Bermuda) Co., Ltd.
Niedersaechsische Energie Agentur GmbH
Nikko Sangyo K.K.
Nippon Unicar K.K.
Nissei Sekiyu Kabushiki Kaisha
Nogat B.V.
Norddeutsche Erdgas-Aufbereitungs G.m.b.H.
Norddeutsche Mineraloelwerke Stettin G.m.b.H.
Nordrheinische Erdgas Transport Gesellschaft mit beschrankte
Noroxo
Northward Developments Ltd.
OSLO Alberta Limited
Office Prive d'Assurances et de Courtages
Oil Field Chemicals Company (Saudi Arabia) Ltd.
Oil Spill Holdings Private Limited
Oil Spill Response Limited
Oldenburgische Erdoel Gesellschaft m.b.H.
Osaka General Gas K.K.

Osaka Kygnus K.K.
P.A.C. S.A.R.L. (Pinson-Allegret-Causse)
Pacesetter Enterprises Limited
Pars Investment Corporation
Petrosvibri S.A.
Plantation Pipe Line Company
Port-Jerome Gaz (P.J. Gaz)
Portland Pipe Line Corporation
Primaeroel GmbH
Prince William Sound Oil Spill Response Corporation
Progas Limited
Projectbureau W/K B.V.
Q16a (Groep) B.V.
Quadrant Gas Limited
Raffinerie du Midi S.A.R.L.
Rainbow Pipe Line Company, Ltd.
Redwater Water Disposal Company Limited
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Rheingas Erdgasleitungs-Gesellschaft m.b.H.
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Rotterdam Antwerpen Pijpleiding C.V.
Rotterdam-Antwerpen Pijpleiding (Nederland) N. V.
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Ruhrgas Aktiengesellschaft
S.A. du Pipeline a Produits Petroliers sur Territoire Geneve
SEAG Aktiengesellschaft fuer schweizerisches Erdoel
SERAM S.p.A.
SOVEXOIL Oil Field
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Sanyo Sekiyu K.K.
Saraco S. A.
Saudi Arabian Lube Additives Company Limited
Schubert K.G.
Senboku Oil Kikoh K.K.

Service Aviation Paris (S.A.P.)
Shehtah Drilling Limited
Shimizu LNG K. K.
Shimoyama Sekiyu K.K.
Shin-Nihon Yukagaku Kogyo K. K.
Shinohara Oil K.K.
Singapore Aromatics Company Private
Smiley Gas Conservation Limited
Sociedad Nacional de Oleoductos Ltda.
Sociedad de Inversiones de Aviacion Limitada
Societa Italiana per l'Oleodotto Transalpino S.p.A.
Societa per Azioni Raffineria Padana Olii Minerali-SARPOM
Societe "Geomines-Caen"
Societe Anonyme "Produits Lubrifiants de Madagascar" — PROLU
Societe Anonyme de Gestion de Stocks de Securite (SAGESS)
Societe Anonyme de la Raffinerie des Antilles
Societe Anonyme des Hydrocarbures
Societe Civile de Mustapha Algerie
Societe Civile de Participation pour la Destruction des Dech
Societe Esso de Recherches et d'Exploitation Petrolieres Ess
Societe Francaise EXXON CHEMICAL
Societe Havraise de Manutention de Produits Petroliers
Societe Malgache de Raffinage
Societe Paris-Manche
Societe Paris-Niel
Societe Reunionnaise d'Entreposage
Societe d'Etude et d'Exploitation de law Raffinerie du Tchad
Societe d'Exploitation & de Developpement d'Operations Comme
Societe d'Exploitation des Garages Les Stations Tour Eiffel
Societe de Manutention de Carburants Aviation (S. M. C. A.)
Societe de Promotion et de Financement Touristique (CARTHAGO)
Societe de la Raffinerie d'Alger
Societe des Pipe-Lines de Strasbourg

Societe des Transports Petroliers par Pipe Line
Societe du Caoutchouc Butyl (SOCABU)
Societe du Pipe Line de la Raffinerie de Lorraine
Societe du Pipe-Line Mediterranee-Rhone
Societe du Pipeline Sud-Europeen
Southern Natural Gas Development Pty. Ltd.
Sriracha Power Company Ltd.
Standard Kaihatsu K.K.
Standard Service K.K.
Stansted Fuelling Company Limited
Statfjord Transport A/S
Sucre Gas, S.A.
Sueddeutsche Erdgas Transport Gesellschaft mit beschrankter
Sun East (Dublin) Company, Ltd.
Superior Disk Corporation
Surrey Gas Company Limited, The
Sussex Gas Company Limited, The
Syncrude Canada Ltd.
TAR-Tankanlage Ruemlang AG
TBF Tanklager Betriebsfuehrungsgesellschaft m.b.H.
TBN Tanklager-Betriebsgesellschaft Nuernberg mbH2
TCA Plastics Inc.
TEAM Terminal B.V.
TFS Turbo Fuel Services GbR, Hamburg
TGF Tankdienst Gesellschaft Frankfurt G.b.R.
TGM Tankdienst-Gesellschaft Muenchen GbR
TIBA Speditions GmbH
TLS Tanklager Stuttgart GmbH
Taihei Bussan K.K.
Taisei Kogyo Sekiyu Hanbai K.K.
Taketsuru Yugyo K.K.
Tankanlage A. G., Mellingen
Tanklager Altishausen A. G.
Tanklager Taegerschen AG
Tanklager-Gesellschaft Tegel G.b.R.
Tanklagergesellschaft, Koeln-Bonn G.b.R.

Tecnica Quimica Petrolera, S.A. de C.V.
Terminal Petrolier de Bordeaux (T.P.B.)
Thai Aliphatics Company Limited
Thai C-Center Company Limited
Thai Petroleum Pipeline Co., Ltd.
Thyssengas G.m.b.H.
Tohpren Co., Ltd. (Chemical)
Tojo Gas K.K.
Toko Sekiyu K.K.
Tonen Chemical Nasu Co., Ltd.
Tonen Energy International Corp.
Tonen Energy and Marine (singapore) Pte. Ltd.
Tonen Filare Co. Ltd.
Tonen Film Company Limited
Tonen Kabushiki Kaisha
Tonen Kagaku K.K.
Tonen Properties Inc.
Tonen Sogo Service Co., Ltd.
Tonen System Plaza Kabushiki Kaisha
Tonen System Service Kabushiki Kaisha
Tonen Tanker Kabushiki Kaisha
Tonen Tapyrus Company Limited
Tonen Technology K. K.
Tonex Company Limited
Towa Compounding Co., Ltd.
Towa Sekiyu K.K.
Toyoshina Film Company, Ltd.
Trans-Northern Pipelines Inc.
Transalpine Oelleitung in Oesterreich Gesellschaft m.b.H.
Tsurumaru Unyu K.K.
UBAG — Unterflurbetankungsanlage Flughafen Zurich
Ulan Coal Mines Limited
United Industry Development Co., Ltd.
Van Salt Water Disposal Company
Verbundnetz Gas AG
Wako Jushi Kabushiki Kaisha

Westdeutsche Erdoelleitungs—G.m.b.H.
Western Canada Marine Response Corporation
Westgas G.m.b.H.
Worex S.N.C.
Yasaka Sekiyu K.K.
Yellowstone Pipe Line Company
Yoshimi Gas Kabushiki Kaisha
Yuai Sekiyu K.K.
Zenon Environmental Systems Inc. (ZESI)

Supreme Court, U.S.
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No. 95-1900

IN THE

Supreme Court of the United States

OCTOBER TERM, 1995

EXXON CHEMICAL PATENTS, INC., EXXON CORPORATION, and EXXON RESEARCH AND ENGINEERING CO.,

Petitioners,

v.

THE LUBRIZOL CORPORATION,

Respondent.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

RESPONDENT'S BRIEF IN OPPOSITION

S. LESLIE MISROCK
STANTON T. LAWRENCE III
PENNIE & EDMONDS
1155 Avenue of the Americas
New York, N.Y. 10036
(212) 790-9090

TIMOTHY B. DYK
(Counsel of Record)
KENNETH R. ADAMO
GREGORY A. CASTANIAS
JONES, DAY, REAVIS & POGUE
1450 G Street, N.W.
Washington, D.C. 20005
(202) 879-3939

Counsel for Respondent

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RESPONDENT'S BRIEF IN OPPOSITION

At issue in this case is principally whether the Court of Appeals for the Federal Circuit properly construed the claims of a single patent, U.S. Patent No. 4,867,890 (the '890 patent), in light of its specific language and Patent Office prosecution history. Having exercised its authority to construe patent claims, under its decision in *Markman v. Westview Instruments, Inc.*, 52 F.3d 967 (Fed. Cir. 1995) (*in banc*), *aff'd*, 116 S. Ct. 1384 (1996), the Court of Appeals went on to conclude that no reasonable jury could find that Lubrizol's accused products infringed the '890 patent as properly construed, and ordered judgment as a matter of law for Lubrizol. In the light of this Court's affirmance in *Markman*, this case presents no issue warranting this Court's review.

STATEMENT

The background of this case is as follows:

1. The Lubricant Additive Industry

Lubrizol[1] and Exxon[2] are competitors and two of the leading manufacturers of lubricating oil additive compositions — packages of additives that, when combined with basestock, produce lubricating oil compositions for gasoline and diesel engines. Oil by itself (the "basestock") is not an adequate lubricant for these engines; only when the oil is combined with these additive packages can a motor oil meet modern performance standards. Typically, these additive packages include a dispersant (which functions to keep impurities suspended in the oil), an antioxidant (to prevent oxidation and inhibit engine wear), and a detergent

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[1] Pursuant to Supreme Court Rule 29.6, Respondent The Lubrizol Corporation states that it has no parent companies or nonwholly owned subsidiaries.

[2] Petitioners, plaintiffs-appellees below, are Exxon Chemical Patents, Inc., Exxon Corporation, and Exxon Research and Engineering, Co. For purposes of this brief, we refer to the three petitioners collectively as "Exxon."

(which helps to prevent engine deposits). This case involves a component of such an additive package — specifically, the use of specified, very small amounts of added oil-soluble copper as a supplemental antioxidant.

2. The '890 Patent

The question at the heart of this case was whether the particular patent in question should be construed as claiming a "recipe" of starting ingredients or as describing the combined components of the product. As discussed below, either approach is permissible as a matter of law, although whichever approach is elected must accurately describe the claimed invention. *See, e.g.*, 3 A.W. Deller, *Patent Claims* § 469, at 67-68 (2d ed. 1971) (discussing *Ex parte Greenbaum*, 38 U.S.P.Q. 350 (Bd. Pat. App. 1938)).

The title of the '890 patent shows that Exxon claimed "Lubricating Oil Compositions Containing Ashless Dispersant, [ZDDP],[3] Metal Detergent and a Copper Compound." Pet. App. 7a. The claims of the '890 patent which were at issue in this case are directed to "'[a] lubricating oil composition suitable as a crankcase lubricant in internal combustion engines comprising' (1) a major amount of lubricating oil, (2) an ashless dispersant (*i.e.*, one that neither contains nor is complexed with metal) in specified amounts of 'about 1 to 10 wt. %', (3) from about 0.01 to 5.0 parts by weight of oil soluble ZDDP, (4) 5 to 500 parts per million by weight of added copper in the form of an oil soluble copper compound, and (5) magnesium or calcium detergent." Pet. App. 5a-6a. The patent's specification includes over twenty references to the composition as "containing" these components, Pet. App. 8a; the patent claims themselves refer to the copper component as "added copper," and to the detergent as an "additive." Pet. App. 8a. The claim does not describe the invention in terms of its "ingredients," and indeed, nowhere in

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[3] ZDDP stands for zinc dihydrocarbyl dithiophosphate, "a zinc-containing compound that inhibits engine wear and produces antioxidant results for the oil." Pet. App. 4a, 19a.

the patent claims does the term "ingredient" appear, much less the term "starting ingredient."

It took over nine years, from initial application to issuance, for Exxon to secure the '890 patent. In the course of that prosecution, which became public only after the patent issued, Exxon had to overcome several prior art references which had already recognized that copper had value as an antioxidant. Initially, Exxon's claims were rejected as obvious in light of prior art (*see* 35 U.S.C. § 103), over three prior art U.S. patents which disclosed lubricating oil compositions. C.A. App. A2646-50, A2733-37, A2740-82.[4]

Exxon's second application, filed in 1982, was again rejected by the patent examiner, who concluded that the inventors "ha[d] reduced oxidation of an oil by adding known copper containing oxidation inhibiting compounds in small amounts. What could be more obvious!" C.A. App. A3079. Exxon appealed this rejection to the Board of Patent Appeals, but the Board affirmed the rejection, stating that "[f]ive of the eight [prior art] references cited teach precisely that which appellants deny, *i.e.*, the use of certain amounts of copper within the limitations recited in appellants' claims is a 'good idea,' but the use of larger amounts is a 'bad idea.'" C.A. App. A3249.

Exxon's third application, filed in 1986, was also rejected as obvious, in view of the same prior art patents which compelled rejection of Exxon's first application. C.A. App. A3487-90.

Exxon's fourth application, filed in 1987, was again rejected as obvious in light of the same prior art patents. Exxon, however, made a significant new argument: Instead of merely arguing that the use of copper as an antioxidant was patentable, Exxon argued that its composition was patentable because the combination of copper "with ZDDP in the presence of an ashless dispersant"

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[4] References to "C.A. App. ___" refer to the Joint Appendix filed in the Court of Appeals in No. 93-1275, which was Lubrizol's appeal from the liability judgment.

showed a "synergistic effect"; *i.e.*, that the components had a superior antioxidant effect when combined together. C.A. App. A3766-70; Pet. App. 8a. The application was still rejected by the Patent Office, as *both* obvious over the previously cited prior art patents, *and* anticipated by a newly cited Lubrizol patent issued to LeSuer, U.S. Patent 3,346,493. The examiner said that LeSuer disclosed the same components as did Exxon's application. C.A. App. A4150-54.

Exxon then submitted the results of comparative engine tests on its lubricating oil compositions, arguing, *inter alia*, that its compositions were different from and superior to the compositions disclosed in the LeSuer patent because Exxon's compositions purportedly showed unexpected benefits — specifically, the enhanced ability of the Exxon composition to avoid sludge and varnish deposits in the engine. These tests supposedly showed the "superior" performance of the Exxon composition as compared to the LeSuer composition. *E.g.*, C.A. App. A4188-94. Exxon contended that, compared to the Exxon compositions, the LeSuer compositions showed inferior results in engine tests because of the effect of the combination of copper with the dispersant in those compositions, whereas in the Exxon formulation the dispersant remained "ashless" (not complexed with metal) in the composition.[5] In other words, Exxon was urging novelty and patentability based upon the nature of the components in the composition as combined together. Two months after the submission of these comparative engine tests, the rejections were withdrawn and the claims were allowed by the Patent Office.

The '890 patent ultimately issued on September 19, 1989, the same day that Exxon filed suit against Lubrizol.

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[5] Exxon stated that this was so "presumably because of the inadequate dispersancy provided by the non-ashless copper complexed dispersant, in which (unlike the present invention) the copper interferes with the performance of the dispersant." C.A. App. A4193.

3. The Trial

A principal dispute at trial involved the proper construction of the '890 patent claims. Exxon urged that its patent was directed to a "recipe" for making the claimed lubricating oil composition; *i.e.*, "a composition defined by the ingredients that go into the composition." Exxon C.A. Brief at 22. Lubrizol, by contrast, argued that the claim language, specification, and prosecution history of the '890 patent all compelled the conclusion that the claims of that patent were drawn to the lubricating oil composition defined by its components as combined together (this was referred to by the parties below as the "in-the-pot" construction).

The distinction between the "recipe" construction urged by Exxon and the "in-the-pot" construction urged by Lubrizol was important, because, as a matter of chemistry, the starting ingredients do not remain static once they are combined. As a part of the blending of the components, the ashless dispersant which was used as a starting ingredient in Lubrizol's products reacted immediately and inevitably (as a matter of chemistry) with the ZDDP used as a starting ingredient. This formed a dispersant-ZDDP complex, which was not "ashless" (just as in LeSuer) because it contained zinc, a metal — in stark contrast to the ashless dispersant in the combined composition that Exxon claimed was patentable. C.A. App. A889; A1263-64; A1555; A1906; *see* Pet. App. 11a. Thus, while Lubrizol's accused lubricating oil compositions began with an ashless dispersant as a starting ingredient, the reaction of the components caused the dispersant, once combined, to be non-ashless, *i.e.*, complexed with metal. Lubrizol maintained that, if the "in-the-pot" construction were adopted by the district court, its products could not infringe because they lacked the claimed quantities of ashless dispersant ("1 to 10 wt. %") required by the claims.

At the close of Exxon's evidence, Lubrizol moved for a directed verdict, maintaining that under the "in-the-pot" construction of the '890 claims, no reasonable jury could find infringement because there was no proof that Lubrizol's accused compositions contained the required "1 to 10% wt. %" ashless

dispersant. The district judge denied the motion. Pet. App. 7a. Lubrizol renewed this motion at the close of all of the evidence; the district judge also denied that renewed motion. Pet. App. 7a.

The issue of claim construction was joined vigorously at the charge conference. After hearing extensive legal arguments from both sides (C.A. App. A1966-A2002), the district judge opted for the "recipe" claim construction proposed by Exxon. Although the district judge confessed during these arguments that "I still don't understand what the difference is between a recipe [claim] and a composition" (C.A. App. A1988), he suggested that he would "fall back on some judging techniques" and give the charge proposed by the party with "the strong burden of proof" — here, Exxon. C.A. App. A1987. Having been given that charge, the jury found, *inter alia,* that Lubrizol's products infringed the '890 patent as construed by the court.[6]

Lubrizol then moved, pursuant to Fed. R. Civ. P. 50(b), for judgment as a matter of law (JMOL). Pet. App. 7a. In that motion, Lubrizol once again asserted, *inter alia,* the argument that under the proper "in-the-pot" construction of the '890 patent's claims, no jury could find that Lubrizol's products infringed the '890 patent, because Exxon had failed to prove that Lubrizol's products contained *any* ashless dispersant, let alone the 1 to 10 wt. % required by the patent claims. Again, the district court denied Lubrizol's motion.

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[6] The same jury also found that the '890 patent was not invalid, was enforceable, and had been willfully infringed; that jury did not assess damages, however. From the judgment entered on that verdict, Lubrizol appealed to the Court of Appeals for the Federal Circuit (No. 93-1275). *See* 28 U.S.C. § 1295(a)(1) (in patent infringement suits, appeals to the Federal Circuit may be taken from judgments which are final except for an accounting of damages). While that appeal was pending before the Court of Appeals, the district judge held a second trial on damages. The judgment entered on the second jury's verdict was the subject of a second appeal (No. 94-1309), which was briefed and argued separately, but before the same panel. That panel consolidated the two appeals on its own motion. Pet. App. 4a n.2.

4. The Appeal

Lubrizol appealed the liability judgment to the Court of Appeals for the Federal Circuit. Lubrizol renewed the noninfringement arguments it had made to the district court, urging that "the court's denial of Lubrizol's Rule 50(b) motion for judgment as a matter of law should be reversed." Lubrizol C.A. Brief at 18. Lubrizol also raised several other grounds for reversal.

The Court of Appeals agreed with Lubrizol on the issue of claim construction, adopted what it called a "slight variance" of Lubrizol's proffered claim construction, reversed the judgment of infringement as a matter of law, and ordered judgment for Lubrizol "without remand for a second trial." Pet. App. 14a-15a. The perceived "slight variance" in claim construction resulted from the Court of Appeals' view that Lubrizol had only focused upon the end product composition, while the Court of Appeals' construction more broadly focused, without "temporal limitation," on any moment "once [the] ingredients are mixed." Pet. App. 9a. In view of its "reversal without remand for a second trial," the Court of Appeals did not address the several other issues raised by Lubrizol's appeal.

The Court of Appeals began by construing claims 1 and 61 of the '890 patent. Following its then-recent *in banc* decision in *Markman v. Westview Instruments, Inc.*, 52 F.3d 967 (Fed. Cir. 1995), the Court of Appeals construed the claims *de novo*, as a matter of law. Pet. App. 5a. With careful detail, the Court of Appeals explained how "the claims, the specification, and the prosecution history all point to the conclusion that Exxon claims a product, not merely a recipe for making whatever product results from the use of the recipe ingredients." Pet. App. 8a. In view of its conclusion that the patent and its prosecution history were clear and unambiguous, the Court of Appeals did not rely on any of the disputed expert and other testimony presented at trial concerning how those witnesses might read the claims.

First, the Court of Appeals quoted the title of the '890 patent — "'Lubricating Oil Compositions *Containing* Ashless Dispersant,

[ZDDP], Metal Detergent and a Copper Compound'" — and explained that this title pointed the public to an understanding that the patent's claims covered a composition which contained the recited components, not a recipe for making that composition. Pet. App. 7a-8a (emphasis in original), *citing Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 780 (Fed. Cir. 1985) (explaining that the title given to a patent is a useful aid to interpreting the claims of that patent).

Second, the Court of Appeals parsed the language of the '890 patent claims and concluded that this language compelled a construction of the claims as directed to a combined lubricating oil composition, not, as the district court had charged, a "recipe." Claims 1 and 61 of the '890 patent claimed a "lubricating oil composition suitable as a crankcase lubricant in internal combustion engines"; plainly, as the Court of Appeals held, this language told the public that the claims covered a finished, combined composition "suitable" to be poured into an engine. Pet. App. 2a. By contrast, the separate ingredients, in their pre-combined states, were obviously not "suitable as a crankcase lubricant."[7]

Third, the Court of Appeals concluded that the specification of the '890 patent also supported its construction of the patent as covering a combined composition. For example, the specification made "over twenty references to 'containing' in reference to the ingredients claimed in the composition." Pet. App. 8a. This was confirmatory of the as-combined construction, for only a combined composition can "contai[n]" ingredients; had a so-called "recipe" construction of the claims been intended, the Court of

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[7] The Court of Appeals found other indicators in the claim language that the '890 patent claimed a combined composition and not a recipe — in particular, references to "added" copper and to a detergent "additive," which "aim at a chemical composition to which ingredients are being introduced," Pet. App. 8a, not to a recipe for making such a composition.

Appeals explained, one would not speak of that "recipe" as "containing" certain ingredients.

Fourth, the Court of Appeals reviewed the prosecution history of the '890 patent, and found that in prosecuting the '890 patent before the United States Patent and Trademark Office,

> Exxon repeatedly emphasized that the genius of its invention lay "in the *previously unknown* synergism of this material [copper] with ZDDP in the presence of an ashless dispersant of the type described in the application . . . ."

Pet. App. 8a (emphasis in original). "Synergism" between two or more materials, by definition, can exist *only* when the two materials are in the presence of each other — that is, when the materials are combined.

Based on these indicia — title, claims, specification, and prosecution history — all of which are part of the public record surrounding the '890 patent, the Court of Appeals concluded that claims 1 and 61 of that patent claimed not a recipe for the making of some unspecified product, but a composition product itself as defined by the specified components. Pet. App. 8a.

Having concluded that the claim construction adopted by the district court was erroneous, the Court of Appeals was left with but one question: "whether any jury could reasonably have found that Lubrizol's accused products literally infringe the claims of the '890 patent as properly construed." Pet. App. 10a. The Court of Appeals concluded that no reasonable jury could so find, because of the absence of proof that Lubrizol's composition *at any time after combination* contained the required "1 to 10 wt. %" ashless dispersant, and ordered judgment for Lubrizol. Pet. App. 12a-13a.

The Court of Appeals explained that, in attempting to prove its case under the "in-the-pot" construction of the claims advanced by Lubrizol, Exxon introduced evidence that, when the ingredients were combined, the bond between the zinc and the dispersant was a "weak," "unstable" one. Pet. App. 11a.

According to Exxon, because of the nature of this chemical bond, "the weak bond — with its constant reversal and rebonding — proved that Lubrizol's dispersant was not always nonashless, and therefore sometimes ashless." Pet. App. 11a-12a. The Court of Appeals accepted this testimony at face value, assuming that a jury "could reasonably have concluded that — at some time — during the manufacture of the product or in its manufactured state — ashless dispersant is found in Lubrizol's product." Pet. App. 12a.

But even so, according to the Court of Appeals, Exxon's trial proof had totally failed in showing "that Lubrizol's products contain ashless dispersant in the specific amounts claimed" — *i.e.*, "1 to 10 wt. %." Pet. App. 13a, 19a. Thus, applying precedents from both this Court (*Boyle v. United Technologies Corp.*, 487 U.S. 500 (1988)) as well as the Federal Circuit,[8] the Court of Appeals concluded that reversal without remand was proper. Pet. App. 10a, 14a-17a.

Judge Plager, who joined the majority opinion, also filed a brief concurring opinion. Pet. App. 21a. Judge Plager highlighted the fact that Exxon's trial theory of claim construction differed from the claims as they had been-written and prosecuted. As he explained, the definiteness required of patent claims cannot tolerate such malleability:

> . . . Claim drafting is itself an art, an art on which the entire patent system today depends. The language through which claims are expressed is not a nose of wax to be pushed and shoved into a form that pleases and that produces a particular result a court may desire. The public generally, and in particular, the patentee's competitors, are entitled to clear and specific notice of what the inventor claims as his invention . . . . There is no room in patent claim interpretation for the . . .

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[8] *Jamesbury Corp. v. Litton Indus. Prods.*, 756 F.2d 1556 (Fed. Cir. 1985); *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533 (Fed. Cir. 1991); *Dana Corp. v. IPC Ltd. Partnership*, 860 F.2d 415 (Fed. Cir. 1988), *cert. denied*, 490 U.S. 1067 (1989).

> equivalent of the *cy pres* doctrine; that would leave the claiming process too indefinite to serve the purposes which lie at the heart of the patent system.

Pet. App. 21a. Although the majority had announced no general rules of claim construction, Judge Nies dissented on the claim construction issue, urging that the majority had "mandate[d] technical rules for how chemical compositions must be claimed." Pet. App. 23a. Judge Nies also dissented on the decision to order judgment for Lubrizol rather than to order a new trial. Pet. App. 33a-37a.

Petitioners moved for rehearing and suggested rehearing *in banc*, urging essentially two grounds for rehearing. (A copy of that petition is attached to this brief in opposition.) *First*, petitioners claimed that the panel, even though it had relied extensively on the Court of Appeals' recent *in banc* decision in *Markman*, had in fact "misapplied" that decision by failing to consider extrinsic evidence that had been presented at trial, and by failing to give deference to the district court's adoption of Exxon's proffered claim construction. *Second*, petitioners claimed that the panel erred by refusing to order a new trial for Exxon. Exxon barely mentioned its present claim (Pet. 17-19) that the Court of Appeals' decision had announced a broad rule of claim construction that would adversely affect other patents with similar claim language. *See generally* Exxon's Petition for Rehearing and Suggestion of Rehearing *In Banc* (hereinafter "Petition for Rehearing") (attached).

The Court of Appeals denied rehearing, and declined the suggestion of rehearing *in banc*, one judge dissenting. Pet. App. 68a. Concurring in the denial of rehearing *in banc*, Judge Mayer reurged his opposition to the Court of Appeals' now-affirmed *in banc* decision in *Markman v. Westview Instruments, Inc.* Pet. App. 70a. Dissenting, Judge Newman argued that the panel decision had created "a new and incorrect rule of claim construction" that would invalidate a large number of "recipe" patents (Pet. App. 72a), even though Exxon had made no such argument in its petition for rehearing; Judge Newman also

disagreed with the panel's decision to order judgment for Lubrizol.

The panel majority (Judge Clevenger, joined by Judge Plager) also issued a brief concurring statement, making clear that Judge Newman's concerns were unfounded. The panel majority reiterated that its decision announced no general rule of law and that if the claim here had been properly drafted and prosecuted as a "recipe," it would have been interpreted as such. The majority thus explained that "Judge Newman's general views on how to read the claims in suit" had little relevance to the claims as they were actually drafted and prosecuted. Pet. App. 70a. The panel majority also explained that, contrary to the views advanced by Judge Newman, and by Exxon in its rehearing petition, "[t]he basic claim interpretation theory adopted by the court was put forth by Lubrizol in its defense to Exxon's suit." Pet. App. 71a.

5. Recent Events

After the mandate of the Court of Appeals issued, petitioners, on March 15, 1996, moved the district court for a new trial on infringement under a doctrine-of-equivalents theory,[9] a theory which it had abandoned at the first trial before the jury was charged. *See* Pet. App. 2a n.1. Lubrizol responded to that motion for new trial, urging that this issue had not been raised on appeal and that further proceedings in the district court have been foreclosed by the Court of Appeals' decision to order "judgment of noninfringement as a matter of law." Pet. App. 17a. Lubrizol also asked the district court to rule immediately. Petitioners, however, have urged the district court to hold their motion for a new trial pending the disposition of their petition for certiorari. The district court has taken no action on that motion to date.

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[9] The doctrine of equivalents allows a court to find infringement in cases where the literal language of a claim is not satisfied, but where literal infringement is avoided by "'a noncritical change.'" *Markman v. Westview Instruments, Inc.*, 116 S. Ct. 1384, 1388 (1996) (quoting H. Schwartz, *Patent Law and Practice* 82 (2d ed. 1995)).

REASONS FOR DENYING THE WRIT

Petitioners have shown no basis for review. This Court's recent decision in *Markman v. Westview Instruments, Inc.*, 116 S. Ct. 1384 (1996), confirmed that the construction of patent claims is a question of law, for the courts, in all cases. The Court of Appeals, applying its now-affirmed decision in *Markman*, 52 F.3d 967 (Fed. Cir. 1995) (*in banc*), *aff'd*, 116 S. Ct. 1384 (1996), faithfully applied that decision in arriving at a proper construction of the '890 patent's claims. The decision to order judgment as a matter of law for respondent necessarily and properly followed. Neither the interpretation of the particular claim language and prosecution history here, nor the decision on this record to order judgment as a matter of law, presents an issue worthy of this Court's consideration.

I. THE FEDERAL CIRCUIT'S CONSTRUCTION OF CLAIMS 1 AND 61 OF THE '890 PATENT DOES NOT MERIT THIS COURT'S REVIEW

Petitioners argue (Pet. (i)) that the Court of Appeals' opinion adopted a black-letter rule that "patents for chemical composition products cannot be claimed solely by identifying the ingredients used to make the composition." Relying on cases and other authorities which they did not even bother to cite in their Petition for Rehearing, petitioners urge that the Court of Appeals "Undermine[d] Established Law . . . That Allows Composition Of Matter Products To Be Claimed Solely By Listing Ingredients." Pet. 11.

To begin with, petitioners are wrong to urge that a claim-construction rule of general application was adopted in this case. It is quite apparent on the face of the court's opinion that no such rule was adopted or applied here. Instead, what the Court of Appeals held was that two particular claims (1 and 61) of a particular patent, as properly construed in light of the claim language, specification, and prosecution history, claimed a lubricating oil composition defined by the chemical components present "in the pot," *i.e.*, once the starting ingredients are combined. It is significant that, to date, this almost nine-month-

old decision has not been cited or applied in any other case decided by the Federal Circuit or, for that matter, by any other federal court.

While it is certainly true, as petitioners and Judge Newman say, that chemical compositions *may* be claimed by their starting ingredients, Pet. 11-15; Pet. App. 74a-81a, that is by no means the *only* way to write such a patent claim. Nor do we understand petitioners to claim the contrary, as is apparent from the Questions Presented.[10] Moreover, the authorities on which they rely do not establish that composition-of-matter claims *must* be drafted and interpreted as "recipe" claims. These authorities recognize only that a composition of matter invention *may* be claimed by description of the starting ingredients.

For example, petitioners imply that in *Holland Furniture Co. v. Perkins Glue Co.*, 277 U.S. 245 (1928), this Court held that a composition patent *must* be claimed by reference to its starting ingredients, but petitioners do so only by means of a cropped and incomplete quotation from that case. The Court's actual language, in full, made clear that this statement was patent-specific: "*It was necessary that the Perkins* patent, so far as it is a patent of a composition of matter, should contain some description of ingredients entering into the composition which would both define the invention . . . and carry it beyond previous development of the art." *Id.* at 254 (omitted material italicized). Reference to starting ingredients was necessary there because, as the Court noted immediately thereafter, "[h]ad Perkins claimed only a glue made of starch dissolved in three parts of water with an alkali [*i.e.*, the final product], he would not have advanced beyond the Gerard and Dornemann patents and subsequent practice." *Id.* This Court has never interpreted *Holland*

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[10] The first question presented is "Whether the court of appeals erred in holding, contrary to the law upon which many thousands of patents are based, that patents for chemical composition products cannot be claimed solely by identifying the ingredients used to make the composition?" Pet. (i).

Furniture as mandating starting-ingredients descriptions of all composition claims.[11]

The *Holland Furniture* invention was a wood and fiber glue product, produced with known processes (277 U.S. at 247-48, 251-52), where patentability derived from the use of a specific starch as a starting ingredient. *Id.* at 255. The Court invalidated claims 28, 30 and 31 because they recited the use or function of the glue, instead of identifying a structure related to the specific starch of the invention. This improperly broadened the claims beyond the invention actually made. *Id.* at 256-58. The Court appeared to recognize that the finished product claims could have described the specific starting ingredient "in terms of its own physical characteristics or chemical properties *or those of the [finished] products.*" *Id.* at 256 (emphasis added). This belies any suggestion that a "recipe" claim form for all compositions is required.

So, too, none of the other cases on which petitioners rely suggests that a composition-of-matter invention must be claimed by reference to the starting ingredients.[12] And other authorities

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[11] Similarly, the other quotation from *Holland Furniture* on which petitioners rely (Pet. 12), in context, does not suggest that all composition patents must be claimed by the description of starting ingredients. The Court stated: "But here we are concerned only with the choice of one ingredient of the product. There can be no description of a composition of matter without some designation of its ingredients." 277 U.S. at 255.

[12] These cases (Pet. 13 & n.7, 15 n.10) generally involved compositions which *were* claimed by their starting ingredients, and construed patents with claim language quite different from the language present in the '890 patent. Several of the cited cases involve patents claiming "a mixture" or "an admixture," language which may properly be used to claim a composition defined by its starting ingredients — but which was *not* used in the claims of the '890 patent. *Application of Henderson*, 348 F.2d 550, 550 (C.C.P.A. 1965) ("a mixture"); *American Chemical Paint Co. v. Firestone Steel Prods. Co.*, 117 F.2d 927, 930 (6th Cir. 1941) ("a

recognize that a combined-components claim may also be appropriate. *See, e.g.*, 2 W. Robinson, *The Law of Patents for Useful Inventions* § 532, at 148 (1890) (a composition-of-matter claim may be drafted "by enumerating its elements, and stating the mode of their union, and the essential qualities of the resulting composition. If such a Claim cannot be framed, whatever defines and distinguishes the composition from all others will suffice — as where it describes the compound as the result of mixing certain ingredients in a certain manner.") (footnote omitted); 3 Deller § 469, at 67-68.[13]

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pickling bath for metal comprising an admixture of water, acid and a thiocyanate"); *American Purifyne Co. v. Novadel Process Corp.*, 3 U.S.P.Q. 180, 182 (2d Cir. 1929) (claiming a "mixture" of the stated ingredients); *Panzl v. Battle Island Paper & Pulp Co.*, 132 F. 607 (N.D.N.Y. 1904), *aff'd in part, rev'd in part*, 138 F. 48, 53 (2d Cir. 1905) (patent interpreted as claiming "mixture and its [starting] proportions"). So too, the patent in *Chadeloid Chem. Co. v. Frank S. DeRonde Co.*, 146 F. 988 (C.C.S.D.N.Y. 1906), claimed both a paint-removing composition and a process for making that composition; the process claims made quite clear that the components described were starting ingredients. *Id.* at 988-89. And *Application of Lindner*, 457 F.2d 506 (C.C.P.A. 1972), is at best unclear as to whether a "recipe" of starting ingredients construction was adopted, or whether there was any difference in the components before and after they were combined.

[13] In *Ex parte Greenbaum*, 38 U.S.P.Q. 350 (Bd. Pat. App. 1938), discussed at length in a leading treatise cited in Judge Newman's dissent (*see* 3 A.W. Deller, *Patent Claims* § 469, at 67-68 (2d ed. 1971)), the applicant drafted a claim for "An ointment containing stearic acid, triethanolamine, and allantonin particles . . . ." The first two components, when mixed together, did not stay static but, rather, "form[ed] an amine soap." *Id.* at 350, 351. The patent examiner thus rejected as "inaccurate" the applicant's composition claim for an "ointment containing" the three components, since the claimed ointment did not in fact "contai[n]" them. *Id.* at 351. The Board of Patent Appeals, however, allowed the claims to be redrafted to claim "the reaction product of" the three components (*id.*), which is recognized as an appropriate way to draft a "recipe" claim. 3 Deller § 469.

The sole, narrow question in this case was whether the '890 patent defined the invention in terms of "starting ingredients" or by reference to what the final composition contained. The patent repeatedly described the invention in terms of what it "contained," and, significantly — and contrary to the implication which the Petition seeks to convey by its extensive discussion of the word "ingredient" (Pet. 11-15) — the '890 patent claims *never* used the term "ingredient," much less the term "starting ingredient."[14]

The Court of Appeals thus did not hold that a patent claim can never be written as a "recipe"; it simply held that Exxon's claims were not so drafted. If the claims had been drafted as "recipe" claims, they would have been enforced as such. Pet. App. 70a. Indeed, as the Court of Appeals explained, its decision was compelled by "the flaws in [Exxon's] claim drafting . . . and trial strategy" (Pet. App. 15a), not by any broadly applicable rules.

The prosecution history of the '890 patent, which the Court of Appeals also relied on, yet is barely mentioned in the Petition, confirms the case-specific nature of the holding below. That prosecution history shows that Exxon succeeded in securing a patent, after years of fruitless effort, only when it abandoned its unsuccessful efforts to claim a "recipe" and instead purported to demonstrate that the ingredients *when combined* had a

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[14] The Federal Circuit's decision used the term "ingredients" to refer both to the ingredients used at the start of the process, as well as those appearing in the composition as combined. *See, e.g.*, Pet. App. 7a ("Whether the specified *ingredients* could be found in the actual composition produced by mixing the *ingredients* is, according to Exxon, simply irrelevant to the meaning of the claims.") (emphasis added). This usage is, of course, fully consistent with standard dictionary definitions of "ingredient." *Webster's Third New Int'l Dictionary* 1162 (1986) ("something that enters into a compound or is a component part of any combination or mixture"). And while the specification of the '890 patent does refer, in one instance, to "a.i.," or "active ingredient," that term in context means a concentration of chemical in oil; it is not used in the sense petitioners contend.

"synergis[tic]" effect because the dispersant *remained* ashless in the mixing pot — *i.e.*, not complexed with metal. Pet. App. 8a. This is thus not a case, such as that hypothesized by Judge Newman, where "[w]hatever interactions occur within the container holding the composition is irrelevant to the specificity and clarity of the claim and its understanding by persons in the field of the invention." Pet. App. 78a.

So too, Exxon's reliance upon Judge Nies' dissent from the original panel opinion clearly misconceives the claim language and prosecution history. She stated that "I interpret 'ashless dispersant' as simply the name or designation of an ingredient required as one of the additives. It does not mean the ingredient must remain inert." Pet. App. 23a. She similarly noted that "under [Exxon's] interpretation," "it does not matter what complex forms between metal and the dispersant." Pet. App. 25a. But the prosecution history is quite clear: Exxon succeeded in persuading the examiner that the claim was new only because it purported to show that the ashless dispersant remained ashless after the combination of ingredients. It *did* matter "what complex form[ed] between metal and the dispersant." Having prosecuted the '890 patent on this basis, petitioners cannot complain of the Court of Appeals' claim interpretation. "It is, of course, well settled" that claims are construed in light of their language, and "also with reference to the file wrapper or prosecution history in the Patent Office. *Hogg v. Emerson*, 11 How. 587 (1850); *Crawford v. Heysinger*, 123 U.S. 589 (1887)." *Graham v. John Deere Co.*, 383 U.S. 1, 33 (1966).[15]

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[15] Although Judge Nies argued that the prosecution history supported her claim construction (Pet. App. 28a-30a), the snippets of that history that she cited were arguments made by Exxon during prosecution of its first and second parent applications (S.N. 177,367 and S.N. 362,114), applications which were rejected by the Patent Office. Exxon later disavowed these arguments in its fourth and final application in order to gain allowance over the LeSuer patent. *See* Lubrizol C.A. Brief at 6-7; Lubrizol C.A. Reply Brief at 7-9.

Put simply, no claim-construction rule of general application was announced or applied in this case. In the face of this plain and clear reading of the Court of Appeals' opinion, petitioners' contention that the Court of Appeals adopted an unsound rule respecting all types of chemical composition claims is without merit. Such a claim-specific, case-specific issue does not warrant this Court's attention.

It is particularly significant that the issue concerning the language of the claims which petitioners now urge to be of paramount importance was barely mentioned — indeed, none of these cases was even cited — in its petition for rehearing in the Court of Appeals. There, the claim construction issue urged by petitioners was their contention that "The Panel Majority Misapplied . . . *Markman* When It Failed To Consider The Extrinsic Evidence . . . ."[16] Petitioners did not urge that the issue of how to construe the claim language with respect to extrinsic evidence was worthy of *in banc* review. Under those circumstances, review by this Court would be particularly inappropriate.

Even if the Federal Circuit had adopted a broadly applicable rule, as petitioners claim, this Court's review still would not be appropriate. The Court of Appeals for the Federal Circuit was chartered "as an exclusive appellate court for patent cases," *Markman,* 116 S. Ct. at 1396, and one of the principal reasons for concentrating patent appeals in a single court was to "provid[e] a new forum for the *definitive adjudication* of selected categories of cases," including, of course, patent cases. S. Rep. No. 275, 97th Cong., 1st Sess. 3 (1981) (emphasis added). If this supposed "rule" is as "incorrect" and "disruptive" as petitioners claim (Pet. 17), there is no reason to believe that the Federal Circuit — which routinely hears patent cases involving chemical compositions — will not in future cases explain this "rule," if

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[16] Plaintiffs-Appellees' Petition for Rehearing at 10, *Exxon Chemical Patents, Inc. v. The Lubrizol Corp.*, 64 F.3d 1553 (Fed. Cir. 1995) (Nos. 93-1275, 94-1309) (attached as an appendix to this brief).

necessary. Consistent with its Congressionally mandated role, it would be appropriate for the Federal Circuit to develop and apply this supposed "rule" of patent law by explicating it in future cases before this Court considered the issue.

II. THE FEDERAL CIRCUIT'S DECISION NOT TO RELY UPON TESTIMONY IN THE RECORD DOES NOT SHOW THAT A RULE OF GENERAL APPLICATION WAS ADOPTED

Petitioners urge (Pet. 15-17) that the Federal Circuit's failure to rely on record testimony shows that a rule of general application was adopted. This is not so.

Contrary to petitioners' argument (Pet. 15), no one "Skilled In The Art" gave testimony "Regarding Their Understanding Of The Patent." Most of the testimony on which petitioners rely was not given by persons "skilled in the art." Johmann, Exxon's patent counsel, gave testimony about "literally thousands of lubricant patents" (Pet. 6), but he did not testify about the claim language or prosecution history of the '890 patent. Moreover, as even the dissent noted (Pet. App. 31a), his was not testimony by "a scientist skilled in the art." C.A. App. A2206. And although petitioners, citing Judge Nies' dissent (Pet. 16 n.11), suggest that Mr. Pindar "read the claims as a person of skill in the art would read the claims" (Pet. App. 31a), there is no record support for that assertion. Mr. Pindar was an advisor to Lubrizol's legal division, not a formulator, and was never shown to be skilled in the art. His deposition was never taken and he did not testify at trial. C.A. App. A1834. And Lubrizol's Dr. Salomon, while she was skilled in the art, concededly gave no testimony "in the specific context of interpreting claim language." Pet. App. 31a (Nies, J., dissenting).[17]

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[17] Thus, petitioners' claim that the district court "agreed that 'there is no dispute how the formulators have read this patent'" (Pet. 15, *quoting* C.A. App. A1973) is inapposite — no formulators in fact testified as to how they read this patent.

Moreover, the inventors' testimony, while sometimes in conflict with itself, appeared to recognize that they had claimed the invention in terms of the final composition. Dr. Colclough admitted that claim 1 defines "all the components as blended together in the lubricant ready to go into the engine," and that claim 61 defines "a finished concentrate in the pot, everything all mixed together ready to be then mixed with a larger quantity of lubricating oil." C.A. App. A632-34. Dr. Marsh admitted that "Claim 1 says nothing about the individual components;" rather, "Claim 1 is all about an oil formulation," and "the invention is the final composition." C.A. App. A890. Exxon's counsel similarly understood Dr. Marsh's testimony: "What he is saying is that it is not what you start with that he is claiming, it is what you finish with." C.A. App. A890. The Exxon patent attorney who prosecuted the fourth and final application to allowance also admitted that the claims of '890 were drawn to "the materials as mixed together." C.A. App. A1064-65.

The Court of Appeals' decision not to rely on this testimony, in the face of the particular language of the patent and its unique prosecution history, in no way suggests that the Federal Circuit was establishing a rule of general application.

III. THE FEDERAL CIRCUIT'S DECISION TO ORDER JUDGMENT AS A MATTER OF LAW FOR RESPONDENT DID NOT INVOKE A SIGNIFICANT CHANGE IN CLAIM INTERPRETATION, WAS ENTIRELY PROPER, AND DOES NOT MERIT THIS COURT'S REVIEW

Petitioners' final argument for review (Pet. 19-24) is that the Court of Appeals erred by ordering judgment of noninfringement as a matter of law, instead of ordering a new trial in the district court. The Court of Appeals' decision in this regard was correct; it presents no ground for review.

This Court established in *Neely v. Martin K. Eby Construction Co.*, 386 U.S. 317 (1967), that the courts of appeals have the power and authority, "in appropriate cases," to order judgment n.o.v. without a new trial. *Id.* at 323, 326. *See also* 28 U.S.C.

§ 2106.[18] It would not, however, be an appropriate use of this Court's resources to grant review to the question of whether the Court of Appeals properly exercised the informed judgment conferred upon it by *Neely* in declining to order a new trial.

In the first place, petitioners' argument is ultimately dependent upon their theory that, because the Court of Appeals supposedly adopted a "Theory Never Advanced By Lubrizol" (Pet. 19), ordering judgment for Lubrizol was therefore inappropriate. As the Court of Appeals made clear in denying rehearing, that is not an accurate characterization of the decision below. The panel majority explained that there was no material difference between the Court of Appeals' claim construction and that urged by Lubrizol at trial: "The basic claim interpretation theory adopted by the court was put forth by Lubrizol in its defense to Exxon's suit." Pet. App. 71a. Thus, even if petitioners' arguments for review were otherwise meritorious (which, as we have shown, they are not), the major premise of their arguments is nonetheless absent.

Second, even if there had been a meaningful difference between the Court of Appeals' claim construction and that advanced by Lubrizol at trial, there could not have been any prejudice to petitioners, because, as the Court of Appeals held, petitioners' trial proofs and arguments had addressed the construction which the Court of Appeals adopted. Pet. App. 14a-15a, 15a n.6. And, further, even assuming (1) that the Court of Appeals *had* adopted a substantively different claim construction than that advanced by

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[18] Section 2106 of Title 28, United States Code, provides:

> The Supreme Court or any other court of appellate jurisdiction may affirm, modify, vacate, set aside or reverse any judgment, decree or order of a court lawfully brought before it for review, and *may* remand the cause and *direct the entry of such appropriate judgment, decree, or order,* or require such further proceedings to be had as may be just under the circumstances.

(Emphasis added.)

Lubrizol, and (2) that Exxon had not addressed it at trial, the Court of Appeals' decision to order judgment as a matter of law still would not conflict with the decisions of this or any other Court. Indeed, it is totally supported by this Court's decision in *Boyle v. United Technologies Corp.*, 487 U.S. 500 (1988).

In *Boyle*, which was relied upon by the Court of Appeals in this case (Pet. App. 10a), this Court held that post-trial motion practice requires (1) the ascertainment of the correct legal standard, and (2) determining, under that standard, whether "the evidence presented in the first trial would not suffice, as a matter of law, to support a jury verdict." 487 U.S. at 513. In *Boyle* (where the proper formulation of the "government contractor defense" was at issue), the defendant's Rule 50 motion articulated only one version of the defense — the unobjected-to version of that defense as it had been charged to the jury.[19] The Fourth Circuit on appeal, and ultimately this Court, endorsed a *different* version of the defense than the one contained in the jury instruction, yet this Court specifically rejected Boyle's claim for a new trial. There was no dispute, as this Court stated in *Boyle*, that "the formulation of the defense adopted by the Court of Appeals [and affirmed by this Court] differed from the instructions given by the District Court to the jury." 487 U.S. at 513. Yet no new trial was necessary. As this Court explained:

> If the evidence presented in the first trial would not suffice, as a matter of law, to support a jury verdict under the properly formulated defense, judgment could properly be entered for the

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[19] Petitioners attempted to claim, in the Court of Appeals, that the verdict-loser in *Boyle* had in fact anticipated the identical version of the defense as articulated by the Fourth Circuit and ultimately by this Court by arguing that legal standard in its JNOV papers. Lubrizol showed that this contention was demonstrably incorrect, by lodging a copy of defendant United Technologies' JNOV memorandum with the Court of Appeals. *See also* The Lubrizol Corporation's Opposition to Plaintiffs-Appellees' Motion for Leave to File Reply at 3-7 (Dec. 27, 1995) (explaining this point).

> respondent at once, without a new trial. And that is so even though (as petitioner claims) respondent failed to object to jury instructions that expressed the defense differently, and in a fashion that would support a verdict.

487 U.S. at 513-14.

Petitioners attempt to distinguish *Boyle* on the grounds that the *Boyle* decision "did not even cite Rule 50" (Pet. 23) and on the ground that "Boyle did not argue that JMOL may not be directed by an appellate court on legal theories that differ from the ones presented in the JMOL motions filed in the district court." Pet. 23. The first point is irrelevant; the second, inaccurate. Before this Court, Boyle (the petitioner, plaintiff and verdict-winner below) in fact argued the point urged here by petitioners: "If The Government Contractor Defense Is A Jury Question, The Court of Appeals Improperly Decided The Case On Law It Just Announced Without Remanding For A New Trial By Jury On The Facts Regarding The Just Announced Law." Petitioner's Brief at 32, *Boyle v. United Technologies Corp.*, 487 U.S. 500 (1988) (No. 86-492). It was exactly this position, the same position urged by petitioners here, that the Court rejected. While the petitioner in *Boyle* framed the argument in terms of the Seventh Amendment, it is difficult to believe that Rule 50 would compel a different result.

Like the Seventh Amendment itself, Rule 50 "approved explicitly" traditional practices for limiting the discretion of juries. *See, e.g., Galloway v. United States*, 319 U.S. 372, 389 (1943). Thus, Courts have not hesitated to consult Seventh Amendment standards in construing Rule 50, as petitioners' own authority makes clear. *See Sulmeyer v. Coca Cola Co.*, 51 F.2d 835, 846 & n.17 (5th Cir. 1975), *cert. denied*, 424 U.S. 934 (1976). *See also* Fed. R. Civ. P. 50 advisory committee notes, 1991 amendment (citing Seventh Amendment decisions). Indeed, Exxon itself conflated the two in its petition for rehearing, urging that "the majority violated Rule 50 and the Seventh Amendment jury-trial rights it protects." Petition for Rehearing at 4.

Moreover, this case would present an extraordinarily poor vehicle for determining whether, as petitioners suggest, Rule 50 somehow supersedes the Seventh Amendment holding of *Boyle*. First, petitioners did not raise below, in their petition for rehearing, their current claim that *Boyle* is inapplicable to Rule 50. Second, as noted above, respondent did advance the "basic" theory of claim interpretation ultimately adopted by the Federal Circuit. Pet. App. 71a. And third, petitioners did present testimony that addressed the Federal Circuit's theory. Pet. App. 14a-15a & n.6.

Finally, the cases on which petitioners do rely (Pet. 21-22) do not establish a conflict. These cases hold that a court of appeals cannot order JMOL where *no* Rule 50 motion was filed (*Wells Real Estate v. Greater Lowell Board of Realtors*, 850 F.2d 803, 810 (1st Cir.), *cert. denied*, 488 U.S. 955 (1988); *Hinojosa v. City of Terrell, Tex.*, 834 F.2d 1223, 1228 (5th Cir. 1988); *Quinn v. Southwest Wood Products, Inc.*, 597 F.2d 1018, 1024 (5th Cir. 1979)), that a party cannot raise a basis in a renewed motion for judgment as a matter of law that was not raised in the original motion (*Cone v. West Virginia Pulp & Paper Co.*, 330 U.S. 212, 217-18 (1946); *Johnson v. New York, N.H. & H R. Co.*, 344 U.S. 48 (1952); *Perdoni Bros., Inc. v. Concrete Systems, Inc.*, 35 F.3d 1, 3 (1st Cir. 1994); *Lambert v. Genesee Hospital*, 10 F.3d 46, 53-54 (2d Cir. 1993), *cert. denied*, 114 S. Ct. 1612 (1994); *Diercks v. Durham*, 959 F.2d 710, 714 (8th Cir. 1982); *Sulmeyer v. Coca Cola Co.*, 515 F.2d at 846), or that a court cannot grant a motion for JMOL on one claim when the movant sought JMOL only on another (*Murphy v. City of Long Beach*, 914 F.2d 183, 186 (9th Cir. 1990) (citing *Kutner Buick, Inc. v. American Motors Corp.*, 868 F.2d 614, 617 (3d Cir. 1989))). None of petitioners' cases contradicts *Boyle*.

CONCLUSION

For the foregoing reasons, the petition should be denied.

Respectfully submitted,

S. LESLIE MISROCK
STANTON T. LAWRENCE III
PENNIE & EDMONDS
1155 Avenue of the Americas
New York, N.Y. 10036
(212) 790-9090

TIMOTHY B. DYK
(Counsel of Record)
KENNETH R. ADAMO
GREGORY A. CASTANIAS
JONES, DAY, REAVIS
& POGUE
1450 G Street, N.W.
Washington, D.C. 20005
(202) 879-3939

Counsel for Respondent

May 24, 1996

APPENDIX

PETITION FOR REHEARING AND SUGGESTION FOR REHEARING IN BANC OF PLAINTIFFS-APPELLEES

IN THE

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

93-1275, 94-1309

EXXON CHEMICAL PATENTS, INC., EXXON CORPORATION, and EXXON RESEARCH AND ENGINEERING COMPANY,

Plaintiffs-Appellees.

v.

LUBRIZOL CORPORATION,

Defendant-Appellant.

Appeal From A Judgment Of The United States District Court For The Southern District Of Texas, Houston Division Norman W. Black, Chief United States District Judge

* * * *

I. OVERVIEW OF POINTS OF LAW AND FACT SUPPORTING *IN BANC* AND PANEL CONSIDERATION

For two independent and compelling reasons the decision of the panel majority in this case, from which Judge Nies dissented, should be reheard, affording the parties their first opportunity to brief and argue the issues raised herein:

First, without receiving any briefing or argument from the parties on the issue, the panel majority decided that it could *sua sponte* adopt a claim construction, advocated by neither party below nor subscribed to by any person skilled in the art, thereby declaring that Lubrizol is entitled to judgment as a matter of law and depriving Exxon of the opportunity to prove infringement at a new trial on the basis of the panel majority's construction of the claim. As we will show below, this disposition violates Fed. R. Civ. P. 50, and denies Exxon the right to a new trial in which a jury could consider evidence based upon what this Court has now declared to be the applicable law of the case.

Second, the panel majority has interpreted *Markman v. Westview Instruments Inc.*, 52 F.3d 967, 979, 34 USPQ2d 1321, 1329 (Fed. Cir. 1995), *cert. granted*, No. 95-26 (U.S. Sept. 27, 1995), as empowering this Court based only on the claims, specification, and prosecution history and "without deference to the trial judge" to construe the claims of Exxon's '890 patent. As a result, the panel majority ignored compelling extrinsic evidence relied upon by the trial court, as well as the requirement that claims be construed from the perspective of a person of ordinary skill in the art, and embraced, in the words of Judge Nies, "technical rules for how chemical compositions must be claimed," with ramifications extending far beyond the facts of this case (slip op. at 3).

The way in which these two errors by the panel majority deprived Exxon of a verdict — obtained in the face of findings below that Lubrizol deliberately copied and willfully infringed Exxon's pioneer invention and engaged in numerous incidents of "vexatious litigation, and bad faith," A3 (damages), A112 — standing alone, justifies rehearing. There are, however, matters at issue here that transcend this case, casting doubt upon both the "skilled in the art" perspective that has historically been the basis for claim construction and this Court's *in banc* decision in *Markman*, now pending before the Supreme Court on certiorari.

The violation of Exxon's Rule 50 and jury trial rights to prove infringement under the panel majority's newly-minted claim

construction is evidence of the unprecedented expansion of this Court's authority at the expense of district courts decried by those members of this Court who wrote separately in *Markman*. 52 F.3d at 993, 1006, 34 USPQ2d at 1341, 1352. And, the "*de novo* review" exercised by the panel majority here, disregarding the district judge's consideration of all of the extrinsic evidence, raises serious questions regarding the "skilled in the art" perspective for claim construction. It also can only fuel concerns for the future predicted by those who disagreed with *Markman*, calling into question that decision by underscoring issues of fundamental concern regarding the relationship between trial and appellate court authority.

Apart from the two issues discussed above, which merit *in banc* review, there are two clarifications that the panel will surely agree should be made in its opinion: First, the vacation of the attorneys' fee award assumed that it was based solely on 35 U.S.C. § 285 (prevailing party fee award). However, the award was also based on 28 U.S.C. § 1927 (vexatious litigation fee award) (A110-11, 118). *See* A112 (setting forth the district court's findings on this issue). As the district court held:

> Both the trial judge and the magistrate judge found that Lubrizol engaged in obstructive behavior prior to the liability trial. Counsel made unnecessary and lengthy objections and interjections during depositions and made so many excessive discovery requests that the cost and delay was substantial.

A4 (damages). Because § 1927 allows awards to non-prevailing parties, *Roadway Express, Inc. v. Piper*, 447 U.S. 752, 762 (1980); *Oliveri v. Thompson*, 803 F.2d 1265, 1273 (2d Cir. 1986), *cert. denied*, 480 U.S. 918 (1987), the panel should clarify that its vacation of Exxon's attorneys' fee award does not prevent the district court on remand from awarding some portion of those fees pursuant to § 1927. *See Westvaco Corp. v. International Paper Co.*, 991 F.2d 735, 746, 26 USPQ2d 1353, 1362 (Fed. Cir. 1993).

Second, the panel majority correctly noted that Exxon's entitlement to a jury trial on infringement based on the doctrine

of equivalents was neither briefed nor argued to the panel, and consequently was not decided by this Court. Slip op. at 1 n.1. Exxon is entitled to a new trial in the district court on that issue, which became moot — and accordingly was neither raised by the court's instructions nor argued by counsel to the jury — because it was undisputed that Lubrizol infringed under the district court's claim construction.[1] *See Weade v. Dichmann Wright & Pugh Inc.*, 337 U.S. 801, 808-09 (1949) (appellate court entry of JMOL improper where there were "suggestions in the complaint and evidence" of an alternative theory of liability not passed upon by the jury). Nothing in the Court's opinion purports to bar Exxon from moving for a new trial in the district court under the doctrine of equivalents. However, out of an abundance of caution, Exxon requests that the panel clarify its opinion in this regard.

II. THE PANEL MAJORITY HAS VIOLATED RULE 50 AND DEPRIVED EXXON OF ITS RIGHT TO SEEK A NEW TRIAL BEFORE A JURY

The panel majority's ruling rests on a claim interpretation that no one contemplated at trial. Rejecting Exxon's showing that the claims encompass any product made from the specified amounts of starting ingredients, as well as Lubrizol's contention that the claims pertain only to final products, the panel majority held that the claims encompass any product having the specified ingredients at any time after blending. Incorrectly asserting that Exxon introduced no evidence establishing the amount of ashless dispersant in Lubrizol's products at any time after mixing, the majority reversed the denial of Lubrizol's JMOL motion for noninfringement. Slip op. at 13-14. In so ruling, the majority

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[1] *See* Judge Nies's dissent, slip op. at 17 ("Exxon proposed deletion of an instruction on infringement by equivalents in the final version of the instructions, but this revision occurred only after the district court adopted Exxon's claim interpretation in its instructions. Exxon did not waive this issue in connection with Lubrizol's or the majority's different interpretation of the claim.").

violated Rule 50 and the Seventh Amendment jury-trial rights it protects.

The panel majority acknowledged that "Lubrizol's view of the claims is less generous to Exxon than ours." Slip op. at 17 n.5. Under this new, broader claim interpretation, Exxon should have the opportunity to demonstrate to the trial judge in a new trial motion that it can offer substantial evidence that Lubrizol's "intermediate" products infringe. For example, contrary to the panel majority's opinion, Exxon's evidence showed that two of Lubrizol's final products contained approximately .54 and .60 wt. percent of borated ashless dispersant (see attached PX703, 2404) (while the claimed amount of ashless dispersant is "about 1" wt. percent), and Lubrizol stated that such borated ashless dispersants do not complex with ZDDP and remain ashless after blending (Lz. Br. 10). Exxon would show that, upon a new trial, it could prove that Lubrizol's intermediate products contained similar amounts of borated ashless dispersant. Other such relevant evidence could include, among other things, the order of blending Lubrizol's ingredients, the duration, temperature, and pressure of blending, and the components present and the rate of addition of those components during blending. That evidence would have been irrelevant under the claim constructions asserted below.[2] The majority's apparent assumption — based on neither briefing nor argument — that Exxon cannot prove infringement under the new interpretation, *see* slip op. at 1 (Plager, J.,concurring) ("Exxon's burden . . . may be impossible of accomplishment"),

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[2] Contrary to the view of the majority, slip op. at 15, Exxon did not submit evidence directed to Lubrizol's "intermediate" products, but only to its final products. Specifically, to rebut Lubrizol's assertion that its final product did not contain ashless dispersant, Exxon introduced expert testimony that any chemical interactions between the ZDDP and ashless dispersant in Lubrizol's fully blended, final oil product were so weak and transitory that those components would be considered non-complexed. A1253-55.

is wrong and, moreover, raises matters that should be left to the trial judge.

In these circumstances, the district court should be permitted to exercise its discretion to determine whether to grant a new trial, because under the new claim construction the "defect" in Exxon's proof can be remedied on a second trial. Rule 50(d) "recognizes that the appellate court may prefer that the trial judge pass first" upon the new trial issue. *Neely v. Martin K. Eby Constr. Co.*, 386 U.S. 317, 323-24 (1967). But the Supreme Court emphasized, *id.* at 325, that the appellate court

> may not order judgment [as a matter of law] where . . . the record reveals a new trial issue which has not been resolved. Part of the Court's concern has been to protect the rights of the party whose jury verdict has been set aside on appeal and who may have valid grounds for a new trial, some or all of which should be passed upon by the district court, rather than the court of appeals, because of the trial judge's first-hand knowledge of witnesses, testimony, and issues — because of his "feel" for the overall case. These are very valid concerns to which the court of appeals should be constantly alert.

Furthermore, Rule 50(b) gives district courts discretion to order new trials, rather than grant judgment as a matter of law, if defects in the nonmoving party's proof might be remedied on a second trial. *See Cone v. West Virginia Pulp & Paper Co.*, 330 U.S. 212, 215-16 (1947). The "'[d]etermination of whether a new trial should be granted or judgment entered under Rule 50(b) calls for the judgment in the first instance of the judge who saw and heard the witnesses and has the feel of the *case which no appellate printed transcript can impart.*'" *Thurber Corp. v. Fairchild Motor Corp.*, 269 F.2d 841, 852 (5th Cir. 1959) (emphasis added) (quoting *Globe Liquor Co. v. San Roman*, 332 U.S. 571, 574 (1948)).

Rule 50 also protects parties from being blindsided by challenges to the sufficiency of the evidence made when they can no longer cure the alleged defect by presenting additional evidence. Rule 50(a)(2) provides that a pre-verdict motion for

JMOL "shall specify the judgment sought *and the law and the facts on which the moving party is entitled to the judgment.*" The rule is intended to afford the nonmoving party "an opportunity to cure any deficiency in that party's proof that may have been overlooked until called to the party's attention by a late motion for judgment." Rule 50(a)(2) advisory committee's note (1991 Amendment). Indeed,the courts have recognized that

> [w]hen a claimed deficiency in the evidence is called to the attention of the trial judge ad of counsel before the jury has commenced deliberations, counsel still may do whatever can be done to mend his case *But if the court and counsel learn of such a claim for the first time after verdict, both are ambushed and nothing can be done except by way of a complete new trial*. It is contrary to the spirit of our procedures to permit counsel to be sandbagged by such tactics or the trial court to be so put in error.

Quinn v. Southwest Wood Prods., Inc., 597 F.2d 1018, 1025 (5th Cir. 1979)

Thus, just as Judge Nies concluded, slip op. at 14-15, Lubrizol's failure to assert the new claim interpretation as a basis for its Rule 50 motions for JMOL precludes appellate review at this time of the sufficiency of the evidence with respect to that issue. *See Cone*, 330 U.S. at 217-18; *Sulmeyer v. Coca Cola Co.*, 515 F.2d 835, 846 (5th Cir. 1975), *cert. denied*, 424 U.S. 934 (1976); *Wang Lab., Inc. v. Toshiba Corp.*, 993 F.2d 858, 868-69, 26 USPQ2d 1767, 1777 (Fed. Cir. 1993); *Biodex Corp. v. Loredan Biomedical, Inc.*, 946 F.2d 850, 858-62, 20 USPQ2d 1252,1259-61 (Fed. Cir. 1991), *cert. denied*, 504 U.S. 980 (1992).

None of the cases discussed by the majority supports its application of Rule 50. In *Boyle v. United Technologies Corp.*, 487 U.S. 500, 513 (1988) (slip op. at 10-11), the Supreme Court held that "[i]f the evidence presented in the first trial would not suffice, as a matter of law, to support a jury verdict under the properly formulated defense, judgment could properly be entered for the respondent at once, without a new trial." But in *Boyle*,

unlike this case, the "properly formulated defense" articulated by the court of appeals was substantively the same as that urged by the defendant in its Rule 50 motions. *See Boyle v. United Technologies Corp.*, 792 F.2d 413, 414 (4th Cir. 1986); "Memorandum of Law" filed in support of defendant's JNOV motion in *Boyle*.

In *Malta v. Schumerich Carillons, Inc.*, 952 F.2d 1320, 21 USPQ2d 1161 (Fed. Cir. 1991), *cert. denied*, 504 U.S. 974 (1992) (slip op. at 16-17 n.6), the pre-verdict motion put the plaintiff on notice that the defendant had challenged the sufficiency of the evidence of infringement under *all* theories, including the one relied upon by the Federal Circuit. Thus, this Court concluded that the legal "ground stated in support of the first motion for directed verdict and in support of the motion for JNOV *were one and the same*." 952 F.2d at 1325, 21 USPQ2d at 1164 (emphasis added). Here, in contrast, the broader interpretation of the claim rendered by this Court is not "one and the same" as the claim construction urged by Lubrizol.

Exxon, like the patent owner in *Orthokinetics Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1 USPQ2d 1081 (Fed. Cir. 1986) (slip op. at 16-17 n.6), failed to object to Lubrizol's post-verdict motion for JMOL. But that motion was not objectionable; it challenged the sufficiency of the evidence supporting Exxon's claim of infringement based on only the claim interpretation Lubrizol proffered at trial and gave no inkling of the construction reached by the panel majority in this case.

In *all* of the other cases relied upon by the majority (slip op. at 14-15), this Court adopted the position urged by one of the parties at trial. *See Laitram Corp. v. Rexnord Inc.*, 939 F.2d 1533, 19 USPQ2d 1367 (Fed. Cir. 1991) (court adopted means-plus-function interpretation urged by accused infringer); *Jamesbury Corp. v. Litton Indus. Prods., Inc.*, 756 F.2d 1556, 225 USPQ 253 (Fed. Cir. 1985) (court adopted jury instruction urged by patent holder); *Dana Corp. v. IPC Ltd. Partnership*, 860 F.2d 415, 8 USPQ2d 1692 (Fed. Cir. 1988) (court adopted best mode defense urged by accused infringer), *cert. denied*, 490

U.S. 1067 (1989). Thus, no authority permits this Court to decide the question of infringement on appeal, while *sua sponte* announcing a new claim construction different from that urged at trial and depriving the losing party of an opportunity to prove infringement under that construction.

Moreover, this Court has recognized that "in general, an appellate court will only review a lower court's decision in light of the grounds and theories advanced below." *Bayer Aktiengesellschaft v. Duphar Int'l Research B.V.*, 738 F.2d 1237, 1243, 222 USPQ 649, 654 (Fed. Cir. 1984). "For this court to decide . . . unadjudicated and never-presented issues would be unfair to the district court, the parties, and the judicial process." *Black & Decker, Inc. v. Hoover Service Center*, 886 F.2d 1285, 1289, 12 USPQ2d 1250, 1254 (Fed. Cir. 1989). Thus, in a rare instance when it has decided a legal issue presented for the first time on appeal, this Court has considered it inappropriate to reverse and has instead vacated and remanded. *Bayer*, 738 F.2d at 1244, 222 USPQ at 654 ("No one, at trial, presented the full dimension" of the new issue); *see also Brinley v. Commissioner of Internal Revenue*, 782 F.2d 1326, 1336 (5th Cir. 1986) (justice requires that plaintiff be given the opportunity to present evidence on remand in light of new legal rule announced on appeal).

The majority's reversal and declaration that Lubrizol is entitled to JMOL, without a remand for consideration of a new trial motion on the Court's new claim construction, was clear error, striking at the heart of the relationship between appellate and district courts. This error goes far beyond the disposition of this case: Unless the panel majority's decision is modified, parties to future infringement suits will be forced to offer evidence regarding infringement, validity, and enforceability with respect to every conceivable claim construction — whether or not proffered at trial — leading to trials that are both a waste of judicial resources and confusing to judges and juries alike.

III. THE PANEL MAJORITY MISAPPLIED AND THEREBY UNDERMINED THIS COURT'S DECISION IN *MARKMAN* WHEN IT FAILED TO CONSIDER THE EXTRINSIC EVIDENCE RELIED UPON BY THE DISTRICT COURT'S DECISION REGARDING CLAIM CONSTRUCTION

Relying on *Markman*, the panel majority ruled that "claim interpretation is a matter of law," which "the trial judge alone has the duty and responsibility" to decide, as the district judge did in this case. Slip op. at 5. The Court then declared

> No matter when or how a judge performs the *Markman* task, on appeal we review the issue of claim interpretation independently without deference to the trial judge.

Id. The panel then proceeded to discuss only the claims, specification, and prosecution history in reversing the district judge's claim construction.

In so applying *Markman*, the panel majority wholly ignored its recognition that, because claims are to be construed from the perspective of one skilled in the art, it is frequently necessary for courts to consider extrinsic evidence, often in the form of testimony. 52 F.3d at 980-81, 34 USPQ2d at 1330-31. Thus, the panel majority construed the claims of Exxon's '890 patent without discussing the extrinsic evidence demonstrating that persons skilled in the art would have construed Exxon's patent as the district court did. See also *SmithKline Diagnostics, Inc. v. Helena Lab. Corp.*, 859 F.2d 878, 882, 8 USPQ2d 1468, 1471 (Fed. Cir. 1988) ("claims should be construed as one skilled in the art would construe them").

This action by the panel majority — treating as irrelevant extrinsic evidence regarding the perspective of a person skilled in the art to which the parties and the trials judge devoted much of the trial — is inconsistent with *SmithKline* and many other cases' recognition of the role of that evidence. Nothing in *Markman* requires, let alone justifies, this approach. To the contrary, a proper understanding of the role of extrinsic evidence and the "*de*

novo review" declared in that case for claim-construction issues, 52 F.3d at 979, 34 USPQ2d at 1329, can preserve *Markman's* essential holdings that claim construction raises a question of law for judges and that their determinations are to be reviewed *de novo*.

Justice Breyer, writing for a unanimous Court in *First Options of Chicago, Inc. v. Kaplan*, 115 S. Ct. 1920 (1995), recently clarified the meaning of "de novo" review. The issue before the Court was the standard of review that the Third Circuit should have applied when reviewing a district court decision that refused to vacate an arbitration award. Recognizing that the Third Circuit "sometimes used the word '*de novo*' to describe this standard" of review, *id.* at 1926, the Court nevertheless held that

> the reviewing attitude that a court of appeals takes toward a district court decision should depend upon 'the respective institutional advantages of trial and appellate courts,' not upon what standard of review will more likely produce a particular substantive result.

Id. (quoting *Salve Regina College v. Russell*, 499 U.S. 225, 231-233 (1991)).

Justice Breyer's opinion for the Court in *First Options* went on to make clear that even statutory construction issues, which obviously receive "*de novo*" review by appellate courts (see *Markman*, 52 F.3d at 987, 34 USPQ2d at 1336), do not always militate against giving some deference to the decision below. *See* 115 S. Ct. at 1926 (describing the "legal leeway" which courts give to administrative agencies' interpretations of statutes under *Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984)). *See also Silwany-Rodriguez v. Immigration & Naturalization Serv.*, 975 F.2d 1157, 1160 (5th Cir. 1992) (referring to the "limited," but nonetheless "*de novo* review" authority exercised by an appellate court in deferring to an agency's interpretation of a statute).

In light of these principles, the panel majority erred when it reached a claim construction different from the one articulated by

the trial judge, without even attempting to explain how its construction could be reconciled with the testimony of those skilled in the art discussed in Judge Nies's dissenting opinion. *Markman* recognizes that district courts have discretion to consider extrinsic evidence showing the perspective of one of ordinary skill in the art, and the district court that heard that evidence obviously had advantages, not available to the appellate court, in exploring those views.

In the circumstances of this case, like others in which testimonial extrinsic evidence is relied upon by the district court to interpret the claim, this Court's review should recognize the greater familiarity with that evidence possessed by the trial court, under the principles discussed by the Supreme Court in *First Options*. An appropriate appreciation of this aspect of this Court's *de novo* review authority with respect to claim construction would have led the Court to affirm the district court.

The trial judge found that "there was no dispute" (A1973) that "the hypothetical person skilled in the art to whom a patent is addressed," *Markman*, 52 F.3d at 986, 34USPQ2d at 1335, would read Exxon's claims, in the light of his own knowledge of lubricating oil concentrates and compositions, and conclude that the claims are drawn to a product resulting from the blending of the five specified ingredients no matter how they react with one another after blending. Thus, the witnesses for *both* parties, through their testimony and actions, demonstrated that the claims would have been interpreted by one of ordinary skill in the art as drawn to a product identified by its starting ingredients.

Dr. Colclough, one of the inventors of the '890 patent, stated that the claimed invention constitutes the composition of the specified starting ingredients, regardless of what occurs once they are blended. A575-76. Prosecuting attorney Johmann, based on his knowledge of "literally thousands of lubricant patents," agreed that the only relevant inquiry for purposes of determining infringement by Lubrizol's final product concerns examination of the ingredients used to make the product. A908-09; *see also* A1173-76. Dr. Salomon, *Lubrizol's own formulator*, testified that

the primary concern from a formulator's perspective is "what goes into the pot" and not what occurs in the pot after the ingredients are blended. A1496-97. Consistent with this, Lubrizol's 1985 validity opinion, 1988 infringement charts, and 1991 validity opinion all viewed Exxon's claims as specifying starting ingredients. A9506-19, 11296-308, 9520-44, A3-4 (damages).

Moreover, notwithstanding the panel majority's contrary conclusion, this extrinsic evidence is fully in accord with and supported by the specification and claims of the '890 patent. Thus, the specification instructed that "modern lubricants are complex *mixtures of various additives* each serving a particular purpose." A2532, Col. 1, line 67 to Col. 2, line 5 (emphasis added). The entire specification then discusses various conventional additives that can be used in the mixture, with the improvement of the '890 patent being, as the panel majority recognizes (slip op.at 4), the addition of a small amount of copper to the other typical additives. Furthermore, as Judge Nies's dissent explained, "the majority interpretation limits coverage to far fewer dispersants than indicated by the specification and claims." Slip op. at 7. This alone would dictate a conclusion that the claims encompass a composition identified by its starting ingredients. *See Smith v. Snow*, 294 U.S. 1, 14 (1935) ("if the claim were fairly susceptible of two constructions, that should be adopted which will secure to the patentee his actual invention").

The district court — properly under *Markman, SmithKline*, and numerous other cases — considered and weighed all of this evidence in construing Exxon's patent. The obvious impact of the majority's failure to consider that evidence will be to render the meaning of patent claims uncertain and to cause litigants to appeal in more patent cases. The outcome in the trial court will have less importance, and the decision in the Federal Circuit will depend to a large extent on the panel assigned and the extrinsic evidence, if any, it chooses to consider, defeating *Markmkan's* goal of "arriving at a true and consistent scope of the claims." 52 F.3d at 979, 34 USPQ2d at 1329.

The panel majority accordingly clearly erred when it reversed the district court's construction of the claim.

IV. CONCLUSION

The Petition for Rehearing and Suggestion for Rehearing *In Banc* should be granted.

Respectfully submitted,

/s/ Charles Alan Wright

CHARLES ALAN WRIGHT
727 East 26th Street
Austin, TX 78705
(512) 471-7188

E. EDWARD BRUCE
COVINGTON & BURLING
1201 Pennsylvania Avenue, N.W.
P.O. Box 7566
Washington, D.C. 20044
(202) 662-6000

/s/ Donald R. Dunner

DONALD R. DUNNER
ALLEN M. SOKAL
HOWARD A. KWON
FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, L.L.P.
1300 I Street, N.W.
Washington, D.C. 20005
(202) 408-4000

Date: September 29,1995

Attorneys for Plaintiffs-Appellees
Exxon Chemical Patents, Inc.,
Exxon Corporation, and
Exxon Research and Engineering Company

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No. 95-1900

IN THE

Supreme Court of the United States

OCTOBER TERM, 1995

EXXON CHEMICAL PATENTS, INC.,
EXXON CORPORATION, AND
EXXON RESEARCH AND ENGINEERING CO.,
Petitioner,

v.

LUBRIZOL CORPORATION,
Respondent.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

MOTION FOR LEAVE TO FILE BRIEF AND BRIEF SUPPORTING PETITIONER ON BEHALF OF PFIZER INC. AS *AMICUS CURIAE*

Of Counsel:
PETER C. RICHARDSON
J. TREVOR LUMB
PFIZER INC.
235 East 42nd Street
New York, NY 10017

RUDOLF E. HUTZ
Counsel of Record
R. ERIC HUTZ
CONNOLLY, BOVE, LODGE & HUTZ
1220 Market Street
Wilmington, DE 19801
(302) 658-9141

Counsel for Amicus Curiae Pfizer Inc.

18pp

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OCTOBER TERM, 1995

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Exxon Corporation, and
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On Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

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MOTION FOR LEAVE TO FILE BRIEF SUPPORTING PETITIONER ON BEHALF OF PFIZER INC. AS *AMICUS CURIAE*

Pfizer Inc. ("Pfizer") respectfully moves this Court, pursuant to Rule 37.2(b) of the Rules of the Supreme Court, for leave to file the attached brief as *amicus curiae* in the above-captioned case. Pfizer's brief is in support of the Petitioner, and urges that this Court review and reverse the decision below.

Counsel for Petitioner, Exxon Chemical Patents, Inc., et al. ("Exxon"), have consented in writing to the filing of an *amicus* brief by Pfizer. No consent of the Respondent,

Lubrizol Corporation ("Lubrizol") could be obtained, thereby necessitating this motion.

The subject Petition of Exxon addresses a decision by the Court of Appeals for the Federal Circuit ("Federal Circuit") which held that a claim to a chemical formulation composition cannot be infringed if there is any interaction between any of the ingredients after they are added to the composition, such that any ingredient changes in chemical form or ratio from that listed in the claim. The effect of the decision below goes far beyond the interpretation of the patent in suit. The decision below has rendered composition claims which are defined by listing the ingredients to be mixed together highly suspect and possibly unenforceable against infringers. Pfizer believes that the decision is erroneous, contrary to law, and contrary to established chemical patent drafting procedures. The decision has a major negative impact on the interpretation of thousands of chemical patents drafted in the same manner as Exxon's patent, and will lead to significant confusion regarding the drafting and interpretation of such claims in the future.

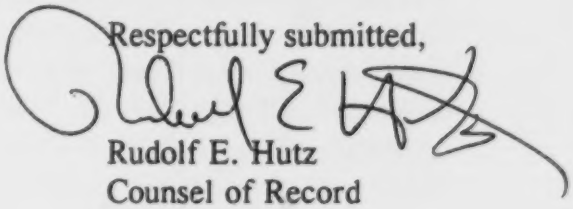
Pfizer has been engaged for years in research, development and sale of medical drugs designed to alleviate and cure various conditions destructive of the health of mankind. Pfizer possesses a unique historical perspective as an innovator and marketer of medical drugs and other chemical products. Pfizer has obtained and holds numerous patents directed to pharmaceutical and chemical compositions. Given its extensive experience in drafting, obtaining, and reviewing patents to pharmaceutical and chemical compositions, as well as its extensive history in those fields, Pfizer believes its Brief will assist this Court to understand the significant negative effect of the Federal Circuit's decision below upon the pharmaceutical and chemical industry as a whole.

As shown in the attached Brief, the issue decided by the Federal Circuit affects far more than the individual interests of the named parties. The decision below, which holds that a claim written in a form in accordance with long accepted and understood chemical practice is now limited by requiring proof that the ingredients listed in the claims retain their identity once mixed to create the claimed composition, adversely impacts on innovation in the pharmaceutical and chemical industry, the drafting of chemical composition patents in the future, and the value of the thousands of chemical composition patents written in the same form, all to the detriment of the public interest. Patents directed to a wide variety of important chemical inventions, including lifesaving and quality of life-enhancing drugs, are now, if the decision below stands, possibly relegated to an effectively unenforceable status.

The rights possessed by owners of chemical composition patents cannot and should not be taken away under the guise of *de novo* patent claim construction without regard for the reality of basic chemistry, the long-standing and accepted practice of drafting and interpreting chemical composition claims, and the existing statutory requirements on the issue.

Pfizer respectfully requests that the Court permit it to file the attached brief and that Petitioner's request to issue a writ of certiorari to review the judgment and opinion of the Federal Circuit be granted.

Respectfully submitted,



Of Counsel:
Peter C. Richardson
J. Trevor Lumb
PFIZER INC.
235 East 42nd Street
New York, NY 10017

Rudolf E. Hutz
Counsel of Record
R. Eric Hutz
Connolly, Bove, Lodge
& Hutz
1220 Market Street
Wilmington, DE 19801
Counsel for Amicus Curiae
Pfizer Inc.

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---

BRIEF SUPPORTING PETITIONER ON BEHALF OF PFIZER INC. AS *AMICUS CURIAE*

Of Counsel:
Peter C. Richardson
J. Trevor Lumb
PFIZER INC.
235 East 42nd Street
New York, NY 10017

Rudolf E. Hutz
Counsel of Record
R. Eric Hutz
Connolly, Bove, Lodge & Hutz
1220 Market Street
Wilmington, DE 19801
Counsel for Amicus Curiae Pfizer Inc.

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INTEREST OF *AMICUS*

Pfizer Inc. ("Pfizer") is a research-based innovator and manufacturer of pharmaceutical compositions and other chemical formulations. For many years, Pfizer has conducted research and development into such products for which it has been rewarded with hundreds of United States Patents.

As an innovator and seller of new drugs and other important chemical products, Pfizer is thoroughly familiar with the procedures for obtaining patent protection in the United States and throughout the world. Pfizer has actively participated in obtaining patents to pharmaceutical and other chemical inventions, including compositions, before the United States Patent and Trademark Office ("PTO"), and has reviewed and interpreted similar patents to others since well before the Federal Circuit's recent decision at issue here. As a substantial patent owner, Pfizer recognizes the incentives offered by the United States patent system in return for research expenditures and innovation to cure and alleviate conditions destructive to the well being of humanity.

The decision below directly affects far more than the named parties and the particular patent at issue, and it has a significant impact considerably beyond the facts of that decision. Chemical inventions have supported some of the most important advances in the health, safety and comfort of mankind. Over the last one hundred years alone, chemistry has impacted and improved essentially every aspect of life in these United States. Enormous amounts of research dollars have been spent by innovative companies like Pfizer to discover, develop and market a wide variety of chemical products.

Frequently, innovation in the chemical field leads to novel combinations of individual chemicals, all mixed together

in particular amounts to make so-called chemical compositions. Until the decision below, these important inventions typically were protected by patent claims that simply identified the individual ingredients and their amounts used to make up the composition. This is how Exxon claimed its lubricant composition, by listing the ingredients and amounts which went into that composition. This was how chemists, inventors, patent attorneys, patent examiners and judges historically understood chemical compositions should be claimed.

By deciding that such a patent claim to a chemical composition cannot be infringed if there is some interaction between the ingredients after they have been mixed to form the composition, such that any ingredient changes in chemical form or ratio from that listed in the claim, the Federal Circuit has rendered patents claiming chemical compositions highly suspect and possibly unenforceable. Patents directed to a wide variety of lifesaving and quality of life-enhancing drugs, as well as other significant chemical compositions, may be effectively avoided, thereby reducing the reward and hence the incentive to undertake the immense expense needed to develop and market new products. Moreover, if it stands, the decision below will generate significant confusion regarding the drafting and interpretation of such patent claims in the future, and will provide copyists with the opportunity to escape their piracy to the detriment of the innovator.

Pfizer believes that the full scope of patents to chemical compositions should be restored by this Court. Given the Federal Circuit's exclusive jurisdiction (28 U.S.C. § 1295), no other judicial forum is available to achieve this objective.

SUMMARY OF THE ARGUMENT

Exxon's Petition for Certiorari should be granted because the decision below is contrary to established law. The court below found that the patent owner had not proven infringement because although the accused infringer initially used the same ingredients in the same amounts as claimed, some of those ingredients interacted after mixing and the patentee had not demonstrated that after interaction the amounts of specified ingredients were as claimed. In so doing, the decision ignored consistent and longstanding practice regarding the drafting and interpretation of chemical composition claims. And the decision may be applied retroactively to deprive innovators of valuable patent rights because they drafted claims in reliance on historical precedent. The decision also ignores the realities of chemical interactions, and it significantly impedes the enforceability of future and existing chemical patents.

ARGUMENT

I. The Decision Below Introduces Unnecessary Complexity Into Chemical Claim Drafting And Serves No Statutory Or Practical Purpose.

The Federal Circuit's interpretation of chemical composition claims, which requires the patentee to present evidence that the ingredients listed in the claims retain their identity once mixed to create the claimed composition, adds a new requirement to the drafting, interpretation and enforceability of chemical composition patents that is not required by logic or the Patent Laws. Congress, in exercising the power granted to it under Article I, § 8, Cl. 8 of the Constitution, enacted Title 35 of the United States Code to provide uniform statutory requirements governing the grant and enforcement of patents in the United States. Those laws expressly permit patent protection for "compositions of matter." 35 U.S.C. § 101.

The Patent Laws also set forth certain statutory requirements regarding the drafting of proper patent claims in exchange for the grant of patent protection. A patentee must include one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention. 35 U.S.C. § 112, ¶ 2. Moreover, an applicant must also provide a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to make and use the claimed invention. Thus, all an applicant must do to satisfy the statutory requirements of Title 35 is to describe his invention in a clear and unambiguous manner so that those skilled in the art can easily understand what is disclosed and the scope of what is claimed.

The Patent Laws do not require a patentee to understand the scientific principles behind how or why an invention works. *See Newman v. Quigg*, 877 F.2d 1575, 1581 (Fed. Cir. 1989) (observing that "it is not a requirement of patentability that an inventor correctly set forth, or even know, how or why the invention works"); *Fromson v. Advanced Offset Plate, Inc.*, 720 F.2d 1565, 1570 (Fed. Cir. 1983) ("[I]t is axiomatic that an inventor need not comprehend the scientific principles on which the practical effectiveness of his invention rests"). Nor do the Patent Laws require an inventor to detail every possible chemical or physical reaction or interaction which might occur in a claimed chemical composition. Congress clearly recognized the difficulties inherent in a complex field where countless variables can have a profound effect on the end product. Moreover, many of these variables are not susceptible to exact measurement but rather are approximations, hypotheses, and theories. As a result, under the Patent Laws and accepted practice as they existed before the decision below, whatever interactions occurred after mixing the components of a composition were irrelevant to the specificity and clarity of the claim and its understanding by persons in the relevant field.

The decision below now requires inventors and patentees to recite in their claims all of the possible interactions or reactions (including hypothetical and potentially unknown ones), failing which they may be penalized through the inability to enforce their patents against infringers who start with the exact same ingredients in the exact same proportions. Thus, through its *de novo* review of the district court's claim interpretation, the Federal Circuit's own interpretation (which itself was not argued by either party or supported by the record below) has engrafted a new requirement on patents to chemical compositions, a requirement contrary to the existing Patent Laws.

II. The Decision Below Ignores Long Understood Claim Drafting Practice And The Realities Of Chemistry.

The decision below is contrary to long standing practice regarding the drafting and interpretation of chemical composition claims, as well as the realities of chemical interactions. The patent bar and the PTO have long recognized that describing and claiming a chemical composition by listing its ingredients and, where necessary, their amounts is an entirely acceptable method of claim drafting. Indeed, multiple authorities recognize that a composition of matter is formed by mixing separate ingredients, and that those ingredients frequently lose their separate identities when combined in the resulting composition, 1 W. Robinson, The Law of Patents for Useful Inventions § 192, p. 278 (1890); 1 D. Chisum, Patents § 1.02[2], p. 1-10 (1995) (quoting Robinson); E. Lipscomb, Walker on Patents § 11.8, at pp. 328-29 (1985) (quoting Robinson). Nonetheless, it was deemed entirely proper to claim such inventions simply by listing the ingredients and their proportions. The resulting claims protected the composition whether or not some interactions occurred. R. Farber, Landis on Mechanics of Patent Claim Drafting § 49, p. 148 (1990).

As pointed out by Judge Newman in her dissent from the Federal Circuit's refusal to rehear the decision below, claims written in this fashion are easy to describe, easy for the PTO to search and examine for patentability, easy to understand, and (until now) unambiguous in content and scope. Moreover, even if interaction among the ingredients occurs after they are mixed together, this does not affect the specificity of the description of what has been invented. It is not necessary to know what physical or chemical interactions occur in order to describe the invention, which resides in the combination of the listed ingredients. *See Exxon Chemical*

Patents, Inc. v. Lubrizol Corp., 77 F.3d 450, 453 (Fed. Cir. 1996). This view is entirely consistent with how those who practice in the chemical arts prepare, read and understand claims written in this fashion. This was precisely how the claims of the patent in suit were written. The Federal Circuit, however, rejected this long standing and recognized interpretation in favor of its own interpretation, unilaterally adopted by a divided court. This decision is contrary to long standing and accepted practice.

The Federal Circuit's requirement that patentees who use such claims to describe their invention must supply proof that the ingredients exist in the accused product "at some time after its creation" (*Exxon Chemical Patents, Inc. v. Lubrizol Corp.*, 64 F.3d 1553, 1560 (Fed. Cir. 1995)) also ignores the realities of chemistry. All chemicals when mixed together interact to some degree. Those interactions are dependent upon numerous variables such as those described in Judge Newman's dissent (77 F.3d at 455). Given these variables, it is frequently difficult, if not impossible, to determine accurately how and when those reactions occur, particularly in highly complex chemical compositions. The Patent Laws recognized this inherent difficulty by permitting chemical composition claims to be written by describing their ingredients and yet providing protection to compositions where chemical changes may have occurred subsequently. Congress clearly did not want to impede the progress of science and useful arts by requiring patentees to know exactly how or why their inventions worked. Nevertheless, the decision below imposes just such a requirement with the penalty for non-compliance being a patent which cannot be enforced effectively against infringers.

III. The Decision Below Has Enormous Potential Adverse Impact On Existing Chemical Patents.

The decision below does not merely impact future patent practice. It also has a significantly negative impact on the thousands of existing patents already issued which utilize the same long standing and recognized method of claiming chemical compositions, a method which was well understood by those practicing in the chemical field. Indeed, many of those patents were written at a time when there were no tests available to identify or measure accurately the numerous reactions or interactions which may occur once the ingredients to the claimed composition were mixed. The inventors knew the ingredients "going in", they knew the resulting composition was highly beneficial -- even life saving -- and they could reproduce the result, at will, simply by mixing the same ingredients in the same amounts, each time.

Yet, the decision below now adds a retroactive requirement, which is unnecessary and in all likelihood cannot be satisfied by those patentees. Owners of those patents must now present evidence regarding infringement based on what might or might not actually occur once the ingredients are mixed together. As a result, those patents have been seriously compromised, and perhaps effectively rendered unenforceable because an accused infringer can now argue that any type of reaction or interaction (including those not easily susceptible of proof) avoids infringement even when the exact same ingredients in the exact same proportions are initially mixed. Thus, the Federal Circuit's interpretation below has an adverse impact far beyond the interpretation of the precise patent in suit.

CONCLUSION

The decision of the Federal Circuit below is a clear error of law. It will have an enormous adverse impact on companies which innovate, develop, and market chemical inventions, and consequently on those who would use and benefit from such inventions. The impact of this decision extends far beyond the parties to this case. Patent owners in this field now hold patents that were drafted, prosecuted and issued in full conformity with then-accepted procedure and chemical reality but now may not be enforceable against unlicensed use, even though the unlicensed users reap significant benefits, both economically and business-wise. At a minimum, if this decision stands, copyists who imitate, not innovate, have a ready opportunity to dispute coverage of even the most important chemical patent.

This uncertainty and disincentive to innovation arises from a plain error in patent claim construction. This clear error of law can be corrected only by this Court.

Respectfully submitted,

Of Counsel:
Peter C. Richardson
J. Trevor Lumb
PFIZER INC.
235 East 42nd Street
New York, NY 10017

Rudolf E. Hutz
Counsel of Record
R. Eric Hutz
Connolly, Bove, Lodge
& Hutz
1220 Market Street
Wilmington, DE 19801
Counsel for Amicus Curiae
Pfizer Inc.

(5)

No. 95-1900

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OCTOBER TERM, 1995

EXXON CHEMICAL PATENTS, INC., EXXON CORPORATION, AND EXXON RESEARCH AND ENGINEERING COMPANY,

Petitioners,

—v.—

LUBRIZOL CORPORATION,

Respondent.

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

BRIEF OF *AMICUS CURIAE* PHARMACEUTICAL RESEARCH AND MANUFACTURERS OF AMERICA IN SUPPORT OF PETITION FOR A WRIT OF CERTIORARI

John C. Vassil*
M. Caragh Noone
Richard Straussman
Alana G. Firester
MORGAN & FINNEGAN, L.L.P.
345 Park Avenue
New York, New York 10154
(212) 758-4800
Attorneys for Amicus Curiae, Pharmaceutical Research and Manufacturers of America

* *Counsel of Record*

23pp

QUESTION PRESENTED

PhRMA concurs in the first question presented in the petition for a writ of certiorari. For convenience, that question is:

> 1. Whether the court of appeals erred in holding, contrary to the law upon which many thousands of patents are based, that patents for chemical composition products cannot be claimed solely by identifying the ingredients used to make the composition?

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INTEREST OF AMICUS CURIAE

PhRMA is a voluntary, nonprofit association representing approximately eighty-five research-based pharmaceutical and biotechnology companies. PhRMA members research and develop over 90 percent of all new prescription medicines. In doing so, PhRMA members commit over $15 billion annually to pharmaceutical and medical research. The decision below, if not reversed, may affect the willingness of the industry to risk investment in research by casting a shadow over the validity of numerous unexpired patents and rendering them, as a practical matter, unenforceable against infringers because of difficulties in proving infringement.

PhRMA has reviewed the petition for a writ of certiorari filed by Petitioners and concurs in the substance thereof. However, PhRMA wishes to call certain additional matters to the Court's attention. The instant brief provides a discussion of the serious consequences that will result from the decision of the United States Court of Appeals for the Federal Circuit in *Exxon Chem. Patents, Inc. v. Lubrizol Corp.*, 64 F.3d 1533 (Fed. Cir. 1995), *reh'g denied*, 77 F.3d 450 (Fed. Cir. 1996) unless review is granted. PhRMA respectfully requests that in deciding whether to grant certiorari in this matter, the Court consider the additional perspective of the pharmaceutical industry's trade association.

All parties have consented to the filing of this brief. The letters of consent have been filed with the Court.

SUMMARY OF ARGUMENT

Exxon's petition for a writ of certiorari should be granted because the Federal Circuit's ruling is contrary to well established patent law. In *Exxon*, the Federal Circuit held that to establish infringement Exxon was required to prove that *after* combination, for at least some period of time, none of the ingredients used by Lubrizol to make the accused product

interacted such that their form or amount changed from that claimed in Exxon's patent. This decision contradicts well established law regarding claim drafting and interpretation. The Federal Circuit's decision casts a shadow upon the validity and enforceability of a multitude of pharmaceutical composition patents. The uncertainty this decision creates regarding the enforcement and validity of a large number of unexpired patents runs afoul of one of the central purposes of the Federal Circuit: to apply the patent laws in a predictable and uniform manner.

ARGUMENT

A. Introduction

Two compelling reasons support granting certiorari in this case. First, the claim construction of Exxon's ingredient-based composition claim[1] adopted by the Federal Circuit, which was not advanced by either party, is, in the words of Judge Newman, a Ph.D. in chemistry with industry experience as both a research chemist and a patent practitioner, "incorrect as a matter of law, as a matter of chemistry, and as a matter of patent practice." *Exxon Chem. Patents, Inc. v. Lubrizol Corp.*, 77 F.3d 450, 451 (Fed. Cir. 1996) (Newman, J. dissenting from denial of rehearing *en banc*). Second, the Federal Circuit's construction of ingredient-based claims potentially invalidates thousands of unexpired patents, creating a "massive taint upon existing property rights." *Id.* at 453.

This "taint" upon existing patents impacts the pharmaceutical industry and all other industries in which novel and use-

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[1] The phrase "ingredient-based composition claim" refers to patent claims which claim a composition by listing the ingredients used in making it. In many cases the claim also specifies the amount or ratio of the ingredients.

ful compositions are claimed using the standard, ingredient-based method of claiming inventions.[2]

Pharmaceutical manufacturers spend billions of dollars each year to develop new pharmaceuticals. D. Green, *Big Increase In World Drug Sales*, The Financial Times Ltd. (Jan. 22, 1996). Indeed, they are responsible for developing over 90 percent of FDA approved drugs. K. Kaitin et al., *The Role of Research-Based Pharmaceutical Industry in Medical Progress in the United States*, 33 J. Clinical Pharmacology 412, 413 (1993). However, bringing a single drug to market takes an average of twelve years and costs approximately $350 million. J.A. DiMasi, *Trends in Drug Development Costs, Times and Risks*, 29 Drug Info. J. 376 (1995). Moreover, commercially marketable drugs result from only approximately one out of every 4,000 discovered compounds. *Global Competitiveness of U.S. Advanced Technology Mfg. Indus.: Pharmaceuticals*, U.S.I.T. Comm'n. No. 332-302, 4-18 (1991). This low yield requires the pharmaceutical industry to recoup its enormous research and development expenditures by sales of the approved products. *Compulsory Licensing of Pharmaceutical Patents: An Unreasonable Solution to an Unfortunate Problem*, 34 Jurimetrics J. 295, 303 (1994). Consequently, the enforceability of patents on approved products is critical to

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[2] As Judge Newman noted in her dissent from the denial of the rehearing *en banc*, a large number of industries rely heavily on this method of claiming. Indeed, she explained that of 608 "chemical" patents listed in the December 26, 1995 Official Gazette of the Patent and Trademark Office, about 100 claimed compositions by listing their ingredients. These claims were directed to inventions as varied as "a pollution control composition, a dye transfer inhibiting composition, a shampoo composition, a paint stripper composition, a polyol composition for polyurethane foams, a cold water detergent composition, a granular detergent composition, a wood preservative, an adhesive composition, photosensitive and radiation-sensitive resin composition, an x-ray film developer composition, a radiation-absorbing glass composition, and many more". *Exxon*, 77 F.3d at 454 (Newman, J., dissenting from denial of reh'g *en banc*).

each pharmaceutical company's survival and incentive for further innovation. *Id.* at 304.[3]

B. The Federal Circuit's Ruling Is Contrary To Well Established Law Relied Upon By The Pharmaceutical Industry

1. The Federal Circuit's Ruling

The Exxon patent claims a chemical composition by reciting the amount of each ingredient used to make the composition. At trial Exxon (and the trial court) interpreted the claim to include all compositions made from the ingredients identified in the patent claim in the amounts specified. The trial court rejected Lubrizol's interpretation, which would have limited the claim to "final" products that contained the claimed ingredients in the claimed form and amount.

The Federal Circuit rejected the claim constructions advanced by both Exxon and Lubrizol and adopted its own novel interpretation, requiring proof of the presence of the claimed ingredients in their claimed amounts at any time after combination. *Exxon*, 64 F.3d at 1560. Thus, the Federal Circuit held that there is no infringement where any ingredient interacts with another such that the ingredient changes in chemical form or amount from that listed in the claim. As Judge Newman noted "any chemical change or interaction within the composition, even loose 'complexing' as appears to happen between ingredients of this composition, renders

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[3] The U.S. Department of Commerce estimates that the pharmaceutical industry will contribute more than $50 billion of sales to the economy by the end of this decade. *See* Hearings Before the Oversight and Investigations Subcommittee of the House Commerce Comm. (May 25, 1995) (Prepared Statement of Gordon M. Binder, Chairman and Chief Executive Officer, Amgen Corporation). These companies cannot continue this immense research effort absent the protection afforded by valid patents that can be enforced against an infringer by proving use of the constituents identified in the patent claim.

the claim useless." *Exxon*, 77 F.3d at 452 (Newman, J., dissenting from denial of reh'g *en banc*).

2. The Federal Circuit's Ruling Is Contrary to Established Patent Law

It is a well established principle of patent law that chemical compositions, such as pharmaceuticals, may be claimed by reciting the ingredients used to make the composition. In *Holland Furniture Co. v. Perkins Glue Co.*, 277 U.S. 245 (1928), this Court recognized that "a patent of a composition of matter, should contain some description of the ingredients entering into the composition which would both define the patent, and carry it beyond the previous development of the art." *Holland Furniture Co.*, 277 U.S. at 254 (citations omitted). Moreover, patent treatises universally recognize that compositions are generally claimed by the list of ingredients used to make the composition. *See, e.g.* Robert C. Faber, *Landis on Mechanics of Patent Claim Drafting*, § 49, at 148 (3d ed. 1990) ("Composition of matter claims *list the chemical ingredients (compounds, elements or radicals) making up the composition or compound*. . . . Where necessary to novelty, etc., the proportions or other conditions or parameters of the compound are stated, usually in ranges of concentration of ingredients.") (emphasis added).

Although the *Exxon* decision may impact the chemical and petroleum industries to a greater extent than the pharmaceutical industry, patents for pharmaceuticals have routinely been sought using ingredient-based claims. A survey of pharmaceutical patents[4] issued over the past six months revealed that more than 200 patents contain ingredient-based composition claims reciting a single active ingredient and an inert carrier or diluent. At least 31 of these patents contain ingredient-based composition claims reciting three or more ingredients.

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[4] Classes 424 and 514, entitled "Drug, Bio-Affecting and Body Treating Compositions," were searched.

Use of this claiming format is often necessary given the complex nature of the chemicals that comprise pharmaceutical compositions. A pharmaceutical is seldom administered alone, but is almost always a mixture of one or more active ingredients and at least one other substance. In the simplest case, a pharmaceutical will consist of an active ingredient and an excipient or inert carrier. Although the carrier is termed "inert," this simply means it does not interfere with the therapeutic effect of the active ingredient.

In a more complex situation, a patented pharmaceutical may consist of an active ingredient combined with several other ingredients, which increase absorption or otherwise enhance the beneficial effect of the active ingredient. Generally, such a composition is claimed by reciting the ingredients in the ratios used to make the composition. A patentee does not usually test for the chemical and physical interactions that occur upon mixing the ingredients, other than to ascertain that the post-combination composition is safe, effective and meets the Food and Drug Administration requirements. Indeed, where a number of different ingredients are added to the active ingredient, elucidation of the myriad chemical and physical interactions that occur between the combined ingredients may be impossible, and is rarely available at the time the patent application is filed.

Similarly, where the pharmaceutical consists of a mixture of two or more active ingredients which yield a synergistic effect when combined, the patentee may not entirely understand the precise chemical or physical interactions that occur to yield the unexpectedly good results. In each of these situations, claiming the composition by the ingredients and their amounts is, as Judge Newman recognized, "the clearest, most accurate, and most comprehensible way of describing such inventions." *Exxon*, 77 F.3d at 453. (Newman, J., dissenting from denial of reh'g *en banc*).[5]

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[5] Because those skilled in the art understand the claims to recite a product that may be reproduced by combining the listed ingredients, the

Moreover, use of ingredient-based composition claims is in accordance with the long-standing rule that "where a patent discloses means by which a novel and successful result is secured, it is immaterial whether the patentee understands or correctly states the theory or philosophical principles of the mechanics which produces the new result." *Van Epps v. United Box Board & Paper Co.*, 143 F. 869, 872 (2d Cir.), *cert. denied*, 202 U.S. 617 (1906); *Deep Welding, Inc. v. Sciaky Bros., Inc.*, 417 F.2d 1227, 1239 (7th Cir. 1969), *cert. denied*, 397 U.S. 1037 (1970). As this Court explained:

> An inventor may be ignorant of the scientific principle, or he may think he knows it and yet be uncertain, or he may be confident as to what it is and others may think differently. All this is immaterial, if by the specification the thing to be done is so set forth that it can be reproduced.

Eames v. Andrews, 122 U.S. 40, 56 (1887). *See also Diamond Rubber Co. v. Consolidated Tire Co.*, 220 U.S. 428, 435-36 (1911) ("It is certainly not necessary that he understand or be able to state the scientific principles underlying his invention, and it is immaterial whether he can stand a successful examination as to the speculative ideas involved."); *Fromson v. Advance Offset Plate, Inc.*, 720 F.2d 1565, 1570 (Fed. Cir. 1983) ("[I]t is axiomatic that an inventor need not comprehend the scientific principles on which the practical effectiveness of his invention rests.").

The Federal Circuit's *de novo* claim construction in *Exxon* inherently violates these long standing principles of law. Under the Federal Circuit's construction, an ingredient-based

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composition is adequately described and enabled as required by 35 U.S.C. § 112. As Judge Newman explained:

> When the invention is adequately described and claimed by listing the ingredients of the composition, and is understood by persons of skill in the field of the invention, the law demands no more.

Exxon, 77 F.3d at 452. (Newman, J., dissenting from denial of reh'g *en banc*)

composition claim is not infringed if a chemical reaction or a physical interaction results in a change in the form or amount of the ingredients after mixing. Thus, to establish infringement under the Federal Circuit's interpretation of these claims, a pharmaceutical patentee must not only understand, but be able to prove the nature and timing of the multitude of physical and chemical interactions that occur among the various ingredients after mixing. Clearly, this requirement violates even the Federal Circuit's own statement in *Newman v. Quigg*, 877 F.2d 1575, 1581 (Fed. Cir. 1989) that "it is not a requirement of patentability that an inventor correctly set forth, or even know, how or why the invention works."

C. The Federal Circuit's Decision Jeopardizes The Validity Of Numerous Pharmaceutical Patents

Although in *Exxon* the Federal Circuit reversed a judgment of infringement, the rationale of the decision can extend to, and jeopardize, the validity of numerous pharmaceutical composition patent claims. Specifically, by requiring that the post-combination composition contain each of the recited ingredients in the specified amounts, the Federal Circuit potentially invalidates numerous existing ingredient- based claims for lack of enablement under 35 U.S.C. § 112.

35 U.S.C. § 112 states, in pertinent part:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same . . .

35 U.S.C. § 112, ¶1 (1996). Thus, to satisfy § 112, the specification must disclose how to make and use the claimed invention. *PPG Indus., Inc. v. Guardian Indus. Corp.*, 75 F.3d 1558, 1564 (Fed. Cir. 1996). Prior to the Federal Circuit's decision in *Exxon*, U.S. inventors, patent attorneys and patent

examiners understood ingredient-based pharmaceutical composition claims to include any composition that resulted from the mixing of the recited ingredients in the specified amounts. As long as the specification taught how to make the claimed composition (*e.g.*, by mixing the described ingredients in the described amounts) and use the resulting composition, the requirements of § 112 were met.

Under the Federal Circuit's new claim construction, however, the claimed invention is a post-combination product that contains the recited ingredients in the listed amounts. Consequently, to comply with 35 U.S.C. § 112, the specification must describe how to make and use this post-combination product. Specifically, the specification must disclose how to make a product that contains, *after* combination, the listed ingredients in the listed amounts, or, at a minimum, describes the chemical and physical interactions that occur between the various ingredients after they are mixed.

In many cases, the specifications of pharmaceutical patents containing ingredient-based claims do not address or describe the composition of the post-combination product or the interaction of the various ingredients upon mixing.

For example,[6] in U.S. Patent No. 4,046,879, issued Sept. 6, 1972, which claims a topical antiviral composition by reciting the ingredients,[7] the specification is silent regarding the chemical composition of the post-combination product.

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[6] To avoid casting aspersions upon patents currently in effect, the examples discussed herein are limited to expired patents. However, pharmaceutical compositions are currently claimed using the ingredient-based approach. Indeed, as discussed *supra*, at least 200 "pharmaceutical" patents containing claims of this type have issued in the past six months.

[7] Claim 1, which is representative, states:

> 1. A topical antiviral pharmaceutical composition consisting essentially of an inert carrier and uniformly distributed therein 0.05 to 20 mgm of at least one complex-former for bi-valent cations per gram of total weight of said composition.

See Appendix A.[8] Additionally, the chemical and physical interactions that occur between the ingredients after mixing are not discussed. *Id.* However, after the Federal Circuit's ruling in *Exxon*, this claim, were it still in effect, would be construed to claim a post-combination composition containing each of the recited ingredients in an amount within the recited range. It is not clear that the specification would be viewed as sufficient to describe or enable this post-combination composition. Thus, this patent would potentially be invalid under the Federal Circuit's construction of ingredient-based claims in *Exxon*.

Similarly, U.S. Patent No. 3,937,825, issued Feb. 10, 1976, claims an anthelmintic composition by reciting its ingredients.[9] *See* Appendix B.[10] The specification provides a detailed

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[8] Appendices A and B, U.S. Patent Nos. 4,046,879 and 3,937,825 respectively, are contained in Lodging of *Amicus Curiae* Pharmaceutical Research and Manufacturers of America in Support of Petition for a Writ of Certiorari, filed with the instant brief. These patent documents could not be legibly reproduced as a booklet-format appendix. Thus, they were filed as a lodging.

[9] Claim 1 recites:

> 1. An anthelmintic composition for controlling strongyles in equine species comprising O,O dimethyl (2,2,2 trichloro-1-hydroxyethyl) phosphonate and 1-6- phenyl 2,3,5,6-tetrahydroimidazo [2,1-b] thiazole hydrochloride in a amount of from 4 grams to about 40 grams in a weight ratio of 5 parts by weight of O,O-dimethyl (2,2,2-trichloro-1-hydroxyethyl) phosphonate to each part by weight of 1-6-phenyl-2,3,5,6-tetrahydroimidazo [2,1-b]-thiazole thiazole [sic] hydrochloride.

The specification states that the composition may include other ingredients including "solid or liquid adjuvants or formulation aids" (col. 2, lines 33-34), "tableting ingredients such as corn starch, lactose, sucrose, sorbitol, talc, stearic acid, magnesium stearate, dicalcium phosphate, gums or similar materials" (col. 2, lines 65-68), flavored emulsions with edible oils, elixirs sterile suspensions (col. 3, lines 22-26) and other diluents, carriers or vehicles (col. 3, lines 34-35).

[10] Appendix B is contained in Lodging of *Amicus Curiae* Pharmaceutical Research and Manufacturers of America in Support of Petition for a Writ of Certiorari, filed with the instant brief.

description of how the claimed composition is prepared from the recited ingredients and used to treat parasites in horses. However, the specification is silent regarding the characteristics of the post-combination composition and the nature of the chemical and physical interactions between the ingredients upon combination. Thus, this patent too would potentially be invalidated under the Federal Circuit's interpretation of ingredient-based claims in *Exxon*.

These are but two examples of hundreds, if not thousands, of pharmaceutical patents whose validity may be jeopardized by the Federal Circuit's ruling in *Exxon*. Moreover, it should be noted that in many of these cases the information necessary to enable the claims, as construed by the Federal Circuit, is completely unavailable because the inventors do not, and in certain instances cannot, understand the post-combination interaction of the complex chemical ingredients.

D. The Federal Circuit's Ruling Will In Some Cases Make Proof Of Infringement Of An Ingredient-Based Pharmaceutical Composition Claim Virtually Impossible

Assuming that an ingredient-based composition claim remains valid under the Federal Circuit's construction in *Exxon*, it may still be rendered essentially unenforceable by the often insurmountable problems this ruling creates in proving infringement.

Prior to the *Exxon* decision, a pharmaceutical patentee with an ingredient-based claim could establish infringement simply by proving that the accused composition was made using the recited ingredients in the specified amounts. *See, e.g., American Chem. Paint Co. v. Firestone Steel Prods., Co.*, 117 F.2d 927, 930-31 (6th Cir. 1941) ("Questions of infringement of patents for compositions of matter are peculiar to themselves. Infringement depends upon the identity or equivalence of the ingredients and upon substantial sameness of the proportions in which the ingredients are used."). However, under

the Federal Circuit's new interpretation of ingredient-based claims, the patentee must prove that the product that results from combination of the ingredients contains the recited ingredients in the specified amounts. Consequently, infringement can only be established if the patentee can prove that *after* mixing the ingredients remain in their pre-combination states and amounts for some period of time.

This ruling places a significant burden on the patentee, who bears the burden of establishing infringement. *Smithkline Diagnostics, Inc. v. Helena Lab. Corp.*, 859 F.2d 878, 889 (Fed. Cir. 1988). As discussed *supra*, sections B & C, in many situations a pharmaceutical patentee does not know what happens to the complex chemical ingredients after they are combined. Moreover, the onus that the Federal Circuit's construction places on the patentee is increased where, due to technological limitations, the patentee *cannot* ascertain the precise interactions between the ingredients or the complex chemistry of the post-combination product. In these situations, proof of infringement will be virtually impossible,[11] leaving, in Judge Newman's words, "a useless patent that can not be enforced against the identical composition made from the identical ingredients in the identical ratios." *Exxon*, 77 F.3d at 454 (Newman, J., dissenting from denial of reh'g *en banc*).

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[11] It should be noted that in certain circumstances, even where the nature and type of reactions between the ingredients are understood, infringement may be impossible to prove. For example, if the reaction, which changes the form or amount of one or more ingredients, occurs virtually instantaneously, or occurs at different rates and to different extents depending on the conditions of combination, use or storage, a patentee may be unable to meet his burden of establishing infringement although the accused infringer uses the recited ingredients to make an identical product.

E. Utilization Of Product-By-Process Claims Is Not A Viable Alternative

Ignoring the fact that an ingredient-based claim, like Exxon's, "is neither a process nor a product, but a mixture of ingredients to form a composition," *Exxon*, 77 F.3d at 456 n.3 (Newman, J., dissenting from denial of reh'g *en banc*), the Federal Circuit majority suggests that patentees should draft product-by-process claims rather than ingredient-based composition claims. *See Exxon*, 64 F.3d at 1563 (Plager, J., concurring). However, this is not a viable alternative to ingredient-based composition claims.

As an initial matter, this advice does nothing to remove the shadow the Federal Circuit's ruling casts over the numerous pharmaceutical patents already in existence, which contain ingredient-based claims.

Moreover, even if one were to assume an ingredient list is a process and could properly be claimed in a product-by-process format, in light of the present conflict in Federal Circuit holdings regarding product-by-process claims, there is considerable uncertainty as to their viability and how courts should and will construe them. *Compare Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1583 (Fed. Cir. 1991) ("Since claims must be construed the same way for validity and for infringement, the correct reading of product-by-process claims is that they are not limited to product prepared by the process set forth in the claims."), *with*, *Atlantic Thermoplastics Co., Inc. v. Faytex Corp.*, 970 F.2d 834, 846-47 (Fed. Cir. 1992) ("Thus, process terms in product-by-process claims serve as limitations in determining infringement."). Thus, it is not clear that use of a product-by-process format offers the same scope of protection as a composition claim. Indeed, as the Court of Customs and Patent Appeals noted, "[composition] claims have well-recognized advantages to those in the business of making and selling compounds, in contrast to process-of-use claims, because

competitors in the sale of compounds are not generally users." *In re Papesch*, 315 F.2d 381, 391 (C.C.P.A. 1963).[12]

In short, product-by-process claims do not provide pharmaceutical patentees with an acceptable alternative to the traditional, ingredient-based composition claim format, particularly given this Court's recognition that invention of compounds or mixtures may have no connection with the process for making them. *Giant Powder Co. v. California Powder Works*, 98 U.S. 126, 137 (1878).

F. The Uncertainty Created By The Federal Circuit's Ruling Is Inconsistent With The Objectives Sought When That Court Was Formed

As explained, *supra*, the Federal Circuit's ruling in *Exxon* creates significant uncertainties in the pharmaceutical and other industries because patentees no longer know how their claims will be construed or how (or if) infringement may be established. This uncertainty is contrary to and essentially nullifies one of Congress' main objectives in establishing the Federal Circuit: creation of certainty and uniformity in application of the patent laws. *See, e.g.*, H.R. Rep. No. 312, 97th Cong., 1st Sess., at 20-33 (1981) ("The new Court of Appeals for the Federal Circuit will provide nationwide uniformity in patent law, will make the rules applied in patent litigation more predictable and will eliminate . . . forum-shopping . . ."). Indeed, as this Court noted in *Markman v Westview Instruments, Inc.*:

> It was just for the sake of such desirable uniformity that Congress created the Court of Appeals for the Federal

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[12] Additionally, product-by-process claims are not favored by the Patent Trademark Office because of the uncertainties and burden involved in examining them. *See* Manual of Patent Examining Procedure § 2113, at 2100-31 (U.S. Pat. & Trademark Office 1995) ("As a practical matter, the Patent Office is not equipped to manufacture products by the myriad of processes put before it and then obtain prior art products and make physical comparisons therewith." (citations omitted)).

> Circuit as an exclusive appellate court for patent cases, observing that increased uniformity would "strengthen the United States patent system in such a way as to foster technological growth and industrial innovation."

Markman, 116 S.Ct. 1384, 1396 (1996) (citations omitted).

CONCLUSION

For the foregoing reasons, and those set forth by the Petitioners, *amicus curiae* PhRMA respectfully urges the Court to grant the petition for a writ of certiorari.

Respectfully submitted,

John C. Vassil*
M. Caragh Noone
Richard Straussman
Alana G. Firester
MORGAN & FINNEGAN, L.L.P.
345 Park Avenue
New York, NY 10154
(212) 758-8519

Attorneys for Amicus Curiae, Pharmaceutical Research and Manufacturers of America.

* *Counsel of Record*

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IN THE

Supreme Court of the United States

OCTOBER TERM, 1995

EXXON CHEMICAL PATENTS, INC.,
EXXON CORPORATION, AND
EXXON RESEARCH AND ENGINEERING CO.,

Petitioners,

v.

LUBRIZOL CORPORATION,

Respondent.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

REPLY TO BRIEF IN OPPOSITION

Charles Alan Wright
727 East 26th Street
Austin, TX 78705
(512) 471-7188

E. Edward Bruce*
Robert A. Long, Jr.
John F. Duffy
COVINGTON & BURLING
1201 Pennsylvania Avenue, N.W.
P.O. Box 7566
Washington, DC 20044
(202) 662-6000

Counsel for Petitioners

* Counsel of Record

June 5, 1996

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REPLY TO BRIEF IN OPPOSITION

I. The Decision Below Undermines Thousands of Existing Patents.

Lubrizol repeatedly asserts that this case involves only the interpretation of "particular claim language" in "a single patent." *See* Opp. 1, 13, 19. But the claim format used by Exxon here is so ubiquitous that the patents issued in just *a single week* by the Patent and Trademark Office (PTO) provide dozens of *identical* examples of its use. *See, e.g.*, Pet. App. 85a-94a. Under this standard format, each claim covers a particular composition which is defined as "comprising" a list of specific ingredients, usually in specific amounts. The issue in this case — whether that list should be interpreted as ingredients entering into the composition — is fundamental to the meaning of all such patents.

Unable to deny that an "ingredients-list" format is used virtually every day in patent practice and accounts for "many thousands of existing patents" (Pet. App. 71a (Newman, J., dissenting on denial of *en banc* rehearing)), Lubrizol asserts that the panel majority below "explained" that Judge Newman's views as to the breadth of its ruling "had little relevance to the [Exxon] claims as they were actually drafted and prosecuted." Opp. 12. That is not true. The panel majority actually stated that Judge Newman's dissenting views "reduce themselves to a *'simple proposition*" -- that Exxon's claims are "drawn to a formula (or recipe) for making whatever product results from mixing the ingredients named in the formula." Pet. App. 70a. (emphasis added).

The panel majority's rejection of this "simple proposition" had nothing to do with the specifics of Exxon's drafting or prosecution of its patent. Instead, that proposition was rejected as being inapplicable in this case because "Exxon sued Lubrizol on a *chemical product claim*." *Id.* (emphasis added). Thus, in the words of the panel majority, "[t]o win, Exxon *had* to prove that Lubrizol's product contains, in the specific amount stated in the

patent, the chemicals named in Exxon's patented formula." *Id.* (emphasis added).

The "simple proposition" now established as the law of the Federal Circuit boils down to this: To prove infringement, holders of chemical composition patents drafted in the traditional ingredients format must now do more than show — as Exxon did here — that a competitor made "the identical composition . . . by combining the identical ingredients in the identical ratio" specified in the claims. Pet. App. 74a (Newman, J., dissenting). It is this "simple proposition," *not* the particular facts regarding Exxon's patent, which explains the concern expressed by the amici regarding the impact of the Federal Circuit's decision upon *all* composition of matter patents.

A. The Decision Below.

Just as in its decision on rehearing, the panel majority's original opinion repeatedly emphasized that Exxon's claims are product claims. *See* Pet. App. 6a ("The claims of the '890 patent are drawn to a particular composition: they are product claims."); *id.* at 7a ("Exxon's claims are drawn to a specific product which has particularly defined ingredients"); *id.* ("[n]othing . . . suggests that Exxon's claims are not drawn to a product that contains particular ingredients"); *id.* at 8a ("[the panel's] conclusion respects that which is claimed, namely a chemical composition"). This general proposition — not the lower court's brief discussion of the patent's specification and prosecution history — constitutes the fundamental rationale for its decision.

Indeed, this was the *only* point mentioned in Judge Plager's concurring opinion, *see* Pet. App. 21a ("The difficulty with [Exxon's] argument is that the claims, as the [majority] opinion well demonstrates, are unquestionably composition of matter claims"). It was also this aspect of the decision which prompted Judge Nies' concern "not merely [with] this case," but rather with the "rules for how compositions must be claimed" (Pet. App.

23a.), as well as Judge Newman's description of the decision as "gravely incorrect . . . . as a matter of law, . . . chemistry and . . . patent practice" (*id.* at 71a).

The specific points argued by Lubrizol do not narrow the decision.

1. "Containing": As Lubrizol points out (Opp. 7, 8, 9, 17) and as Exxon explained in its petition,[1] the lower court referred to Exxon's use of the word "containing" in the patent title and specification, which the lower court linked to the word "comprising." Pet. App. 2a ("comprising mean[s] *containing* at least" (emphasis added)). But "comprising" appears in *every* example of the "ingredients-list" patents that Exxon reproduced from the single week of PTO's *Official Gazette*.[2] *Id.* at 85a-94a. Furthermore, other "ingredients-list" examples, again drawn from that same week, also use the word "containing" in the title of the patent.[3]

2. Prosecution History: Lubrizol contends that the prosecution history of the Exxon patent "shows that Exxon succeeded in securing a patent . . . only when it abandoned its unsuccessful efforts to claim a 'recipe' and instead purported to demonstrate that the ingredients *when combined* had a . . .

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[1] *See* Pet. 14 n.8, noting that common usage confirms that "containing" commonly refers to ingredients used to make a product.

[2] "Comprising" is a "standardized word of the patent art," Robert C. Faber, *Landis on Mechanics of Patent Claim Drafting* 11 (3d ed. 1990), and is used in the vast majority of all patents.

[3] *See* 1181 Off. Gaz. Pat. Office 2556 (Dec. 26, 1995) (patent for "Positive-Working Naphthoquinone Diazide Sulfonic Acid Ester Photoresist Composition Containing 4,4'-Bis(Dialkylamino)Benzophenone"); *id.* at 2618 (patent for "Fluorine-Containing Copolymer and Composition Containing the Same").

'synergis[tic]' effect . . . ." Opp. 17-18. This theory of the prosecution history appears nowhere in the panel majority's analysis.[4] In any event, Lubrizol incorrectly alleges that Exxon "abandoned" its "efforts to claim a 'recipe'" for making the product from specified ingredients. Exxon distinguished a prior patent on the very ground that it used a different ingredient. (A.4166, 4190-91). Moreover, this allegation is flatly contradicted by the fact that Exxon used *exactly the same* standardized claim format throughout all of its prosecution of the patent. If that claim language constituted a "recipe" for making the product in the early years when Exxon was prosecuting its patent application, it surely had the same meaning when the patent was issued.

B. The Need for Precise Meaning in Claims.

As this Court noted in *Markman v. Westview Instruments, Inc.*, 116 S.Ct. 1384, 1388 (1996), patent claims "define the scope of a patent grant." Accordingly, they are required by statute to be definite; they must "'particularly poin[t] out and distinctly clai[m] the subject matter which the applicant regards as his invention.'" *Id.* (quoting 35 U.S.C. § 112). Any argument that identically drafted claims based on a standardized format can have entirely different meanings because of unique facts regarding the specification and prosecution history destroys the definiteness of the claims and robs the standardized format of its usefulness.

Thus, even if Lubrizol had won this case on the basis of the specific facts surrounding Exxon's patent, it would have succeeded in rendering uncertain that which was formerly clear. On

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[4] The panel majority did mention, without explanation, that Exxon stressed during the patent prosecution the "synergism" between the ingredients. Pet. App. 8a. If anything, the use of the word "synergism" supports Exxon's argument because it shows that Exxon and the PTO understood that the ingredients listed in Exxon's patent would not remain inert inside the composition, but were intended to interact together.

Lubrizol's own theory regarding the Federal Circuit's decision, it has undermined the stability of what Judge Newman described as "[m]any thousands of chemical patents [that] are written in the simple combinational style" used by Exxon. (Pet. App. 72a).

This point is substantiated by three separate amici who decry the way in which the Federal Circuit's decision threatens their composition of matter patents. P&G Br. 7-8, Pfizer Br. 8, PhRMA Br. 8-11. The Court should confirm Judge Newman's warnings, as well as Exxon's and the amici's arguments, by requesting the views of the Solicitor General, who in turn could report those of the PTO concerning the disruptive nature of the Federal Circuit's decision.

C. Lubrizol's Other Attempts to Avoid Certiorari Are Specious.

1. Lubrizol argues that Exxon could not have claimed its chemical composition product solely by identifying its ingredients, because "the separate ingredients, in their pre-combined states, were obviously not 'suitable as a crankcase lubricant.'" Opp. at 8. Lubrizol even contends that "the Court of Appeals *held* that this language told the public that the claims covered a finished, combined composition 'suitable' to be poured into an engine." *Id.* (emphasis added). These arguments cannot possibly be reconciled with the Federal Circuit's *rejection* of Lubrizol's construction of Exxon's patent as covering only a "finished" or "final" product suitable for use in an automobile engine. *See* pp. 7-8, *infra*.

2. Lubrizol's suggestion that certiorari is "inappropriate" because of the contents of Exxon's petition for rehearing (Opp. 19) is both unexplained and unjustifiable. The issue that Exxon raises here was the *first* issue raised and briefed by each side on appeal and, as reflected in the lengthy opinions below, it was fully considered both by the panel and by the full court in denying *en banc* rehearing.

3. Lubrizol argues that, "even if the Federal Circuit had adopted a broadly applicable rule," certiorari would "not be appropriate" because the Federal Circuit should be left to provide a "'*definitive adjudication* of selected categories of cases.'" Opp. 19 (quoting S. Rep. No. 275, 97th Cong., 1st Sess. 3 (1981); emphasis added by Lubrizol). But this Court has not abdicated its certiorari jurisdiction over the Federal Circuit.[5] Indeed, this case is quite similar to *Eli Lilly & Co. v. Medtronic, Inc.*, 496 U.S. 661 (1990), another patent case where Judge Newman dissented from *en banc* rehearing, 879 F.2d 849 (Fed. Cir. 1989), and where a number of amici filed briefs in support of certiorari, 493 U.S. 889 (1989). Moreover, in other cases from the Federal Circuit, the Court has requested the views of the Solicitor General before making a final disposition of a petition for certiorari. *See, e.g., Novopharm, Inc. v. Burroughs Wellcome Co.*, 115 S.Ct. 2554 (1995), *cert. denied*, 116 S.Ct. 771 (1996) (patent case); *Asgrow Seed Co. v. Winterboer*, 114 S.Ct. 50 (1993), *cert. granted*, 114 S.Ct. 1535 (1994), *decided* 115 S.Ct. 788 (1995) (patent-related case under Plant Variety Protection Act).

Relatedly, Lubrizol argues that the Court should wait and see whether Judge Newman, Exxon, and all of the amici are correct about the broad effects of the decision. *See* Opp. 19-20. That is *not* the approach the Court took in *Eli Lilly* or in *Asgrow Seed*, where dissents to *en banc* review stressed the importance of the ruling,[6] and it would not be appropriate here. Furthermore, the

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[5] *See, e.g., Warner-Jenkinson Co. v. Hilton Davis Chemical Co., cert. granted*, 116 S.Ct. 1014 (1996) (patent case); *Markman, supra*; *Hercules, Inc. v. United States*, 116 S.Ct. 981 (1996) (government contracting case); *Shalala v. Whitecotton*, 115 S.Ct. 1477 (1994) (causation issue under the Vaccine Injury Act); *Brown v. Gardner*, 115 S.Ct. 552 (1994) (veterans disability case); *Cardinal Chemical Co. v. Morton Int'l*, 508 U.S. 83 (1993) (patent case).

[6] In *Asgrow Seed* as in this case, Judge Newman filed a dissent to the denial of *en banc* rehearing stressing the importance of the case. *See* 989 F.2d 478, 479 (Fed. Cir. 1993).

PTO is *presently* confronted with the effects of the decision. It would be far better to seek the views of the Solicitor General (who could represent the PTO) now than to wait years for future cases caused by the disruption that will result from the decision below.

4. Lubrizol accuses Exxon of using a "cropped and incomplete quotation" (Opp. 14) from *Holland Furniture Co. v. Perkins Glue Co.*, 277 U.S. 245 (1928), in contending that Exxon incorrectly reads that decision as holding "that a composition patent *must* be claimed by reference to its starting ingredients . . . ." (Opp. 14). But Exxon's argument is, instead, that *Holland Furniture*, along with *all* of the treatises, clearly supports an ingredients-list as the standard format for claiming composition of matter patents (Pet. 11-13) — a point that Lubrizol does not contest. *See* Opp. at 15 ("[t]he Court [in *Holland Furniture*] appeared to recognize that the finished product claims could have described the specific starting ingredient . . . .")).[7] This "simple proposition" established in *Holland Furniture* — the very one that Judge Newman urged in her dissent — has now been flatly rejected by the Federal Circuit.

II. The Federal Circuit's Disregard of Rule 50 Merits Certiorari.

In its own words, the court of appeals adopted an interpretation of Exxon's patent claims that was "broader" than Lubrizol's. Pet. App. 9a; *see also id.* at 9a, 17a n.6 (Lubrizol's interpretation was "too narrow" and "less generous to Exxon" than the lower court's). While Lubrizol's interpretation looked only to the final product, the court of appeals asked whether the specified ingredients were present in the specified amounts "*at any time*" in the finished product *or* during the manufacturing process. Pet.

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[7] *See also* Opp. at 14: "[I]t is certainly true, as petitioners and Judge Newman say, that chemical compositions *may* be claimed by their starting ingredients . . . ."

App. 9a (emphasis added). Lubrizol's attempt (Opp. 22), like that of the panel majority on rehearing (*see* Pet. App. 71a; *see also* Pet. 10, n.4), to minimize the difference between Lubrizol's and the lower court's claim construction ignores the narrow grounds upon which Lubrizol prevailed in this case — *i.e.*, that Exxon had not proved that "ashless dispersant" was in the composition in the amounts specified in the patent. Pet. App. 15a.

Had Exxon known at trial that the amount of ashless dispersant in the composition as it was being prepared was decisive, it would have pursued a different approach to proving infringement. Specifically, Exxon would have shown that in the early stages of the manufacturing process Lubrizol began to add small amounts of the zinc compound (ZDDP) which were insufficient to "complex" (or react) with all of the ashless dispersant, so that the required amount of ashless dispersant existed in the composition at that point. Until the Federal Circuit's decision, Exxon had no reason to put on evidence relating to Lubrizol's rate of mixing ingredients and the related amounts of ashless dispersant in the composition during the mixing process.

Even though Lubrizol concedes that *Boyle v. United Technologies Corp.*, 487 U.S. 500 (1988), addressed only a Seventh Amendment argument (Opp. 24), Lubrizol attempts to salvage something from that opinion by contending that the requirements of the Seventh Amendment and Rule 50 are coextensive. But the Seventh Amendment guarantees a right to jury trial, while the aspect of Rule 50 at issue here deals with notice: JMOL may be granted only if a party has "specif[ied] . . . the law and the facts on which [it] is entitled to the judgment" before the case is submitted to the jury. Rule 50(a)(2). The purpose of this requirement is to give the nonmoving party an opportunity to cure any deficiency in its proof. Advisory Comm. Notes to 1991 Amendments.

Finally, Lubrizol has not reconciled the decision below with those of other circuits. Opp. 25. Other courts of appeals have

recognized that, "[f]or the same reasons [that] a party may not seek a [JMOL] on grounds not alleged in their motion for directed verdict," a court "may not enter a [JMOL] *on grounds not asserted* in a party's motion for directed verdict." *Murphy v. City of Long Beach*, 914 F.2d 183, 186 (9th Cir. 1990) (citing *Kutner Buick, Inc. v. American Motors Corp.*, 868 F.2d 614, 617 (3d Cir. 1989)) (emphasis added). These cases do not merely hold that a court cannot grant JMOL on one claim when the party sought JMOL on another. Opp. 25. The courts' language (no JMOL "on grounds not asserted") and rationale (preservation of the opportunity to cure defects in proof) admits of no such limitation. In *Kutner*, moreover, the moving party sought JMOL "on all counts," but the court of appeals held that JMOL was improper because "[t]he sufficiency of proof of damages was not advanced as a ground" for JMOL. 868 F.2d at 617.[8]

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[8] *Neely v. Martin K. Eby Construction Co.*, 386 U.S. 317, 324 (1967), gains nothing for Lubrizol. (Opp. 1-22). That case merely established that courts of appeals have the power to order entry of JMOL "in appropriate cases." *Neely* did not hold that a court of appeals may direct entry of JMOL on grounds not advanced by the party at trial. To the contrary, the Court noted that an appellate court "may not enter [JMOL] where the verdict loser has failed strictly to comply with [Rule 50(b)] . . . ." 386 U.S. at 325.

CONCLUSION

For the reasons stated herein, as well as in the petition, this Court should grant a writ of certiorari to review the Federal Circuit's decision in this case.

Respectfully submitted,

Charles Alan Wright
727 East 26th Street
Austin, TX 78705
(512) 471-7188

E. Edward Bruce*
Robert A. Long, Jr.
John F. Duffy
COVINGTON & BURLING
1201 Pennsylvania Ave., N.W.
P. O. Box 7566
Washington, DC 20044-7566
(202) 662-6000

Attorneys for Petitioners

*Counsel of Record

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IN THE
Supreme Court of the United States
OCTOBER TERM, 1995

EXXON CHEMICAL PATENTS, INC.,
EXXON CORPORATION and
EXXON RESEARCH AND ENGINEERING COMPANY,
Petitioners,

v.

LUBRIZOL CORPORATION,
Respondent.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

AMICUS CURIAE BRIEF OF THE PROCTER & GAMBLE COMPANY IN SUPPORT OF PETITIONERS

STEVEN W. MILLER
Counsel of Record
MICHAEL D. JONES
BRIAN M. BOLAM
Winton Hill Technical Center
6100 Center Hill Road
Cincinnati, Ohio 45224
(513) 634-4490
Counsel for Amicus Curiae
The Procter & Gamble Company

WILSON - EPES PRINTING CO., INC. - 789-0096 - WASHINGTON, D.C. 20001

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AMICUS CURIAE BRIEF OF THE PROCTER & GAMBLE COMPANY IN SUPPORT OF PETITIONERS

The Procter & Gamble Company together with its subsidiaries ("P&G") files this *amicus curiae* brief in support of Petitioners, Exxon Chemical Patents, Inc., Exxon Corporation and Exxon Research and Engineering Company. P&G has received the consent of both Petitioners and Respondent for the filing of this brief. Correspondence reflecting the parties' position has been lodged with the clerk.

INTEREST OF THE *AMICUS CURIAE*

P&G is an international manufacturer and marketer of consumer goods, including household products such as laundry and cleaning items, food, drug, personal care items such as shampoos, deodorants and cosmetics, nearly all of which are complex compositions of matter containing multiple ingredients.[1] P&G engages in substantial research and development and invests a significant portion of its resources in these areas. P&G relies on the patent system to protect its research investment. P&G has no direct interest in this case; has no interest in any of the parties in this action; nor is P&G a competitor of either Petitioners or Respondent in the field of lubricating oil compositions at dispute in this lawsuit.

The Federal Circuit's holding in this case[2] carries a potentially broad effect. Due to the unique jurisdiction of the Federal Circuit, this split panel decision will govern all future disputes in which the construction of composition of matter claims is at issue. This decision may have enormous economic impact on P&G's business and that of other manufacturers of consumer products who are similarly situated.

P&G respectfully submits that because it is a member of the consumer products manufacturing industry and, through its subsidiaries, manufactures and sells patented products which are potentially affected by the Federal Circuit's decision, yet does not have a direct pecuniary

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[1] P&G products include TIDE, CHEER and BOLD brand detergents; DOWNY and BOUNCE brand fabric softeners; PANTENE, PERT PLUS and HEAD & SHOULDERS brand shampoos; SURE and OLD SPICE brand deodorants; along with dozens of other brands, both in the United States and abroad.

[2] *Exxon Chemical Patents, Inc. v. Lubrizol Corp.*, 64 F.3d 1553, 35 U.S.P.Q.2d 1801 (Fed. Cir. 1995); *reh'd denied*, 77 F.3d 450, 37 U.S.P.Q.2d 1767 (Fed. Cir. 1996).

interest in this case, it is in a position to offer useful perspective to the Court.

SUMMARY OF ARGUMENT

The decision in *Exxon* will signal a major departure from the fundamental principles of patent law. First, it will threaten effective patent protection for composition of matter inventions. Second, it will upset the well-established rules of patent claim construction. Third, it will undermine this Court's attempts to bring certainty to the interpretation of patent claims.

In all three respects, the decision in *Exxon* brings confusion to the U.S. patent system. It warrants this Court's review.

By eliminating the simple and time-honored technique of listing ingredients entering into a chemical composition when claiming that composition, the decision in *Exxon* threatens effective patent protection for composition of matter claims. The opinion suggests only an inferior and circuitous route (product-by-process claim language) by which patentees might proceed.

Exxon is a major departure from the conventional interpretation of composition of matter claims. The majority ignores nearly a century of precedent and practice. As Judge Newman so succinctly stated:

> It is incorrect as a matter of law, as a matter of chemistry, and as a matter of patent practice.[3]

Furthermore, the introduction of inconsistency in the drafting and interpretation of patent claims due to the decision in *Exxon* is contrary to this Court's recent attempts to bring more uniformity and certainty to the patent system. The logical result of *Exxon* will be to

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[3] 77 F.3d 450, 451, 37 U.S.P.Q.2d 1767, 1768 (Fed. Cir. 1996) (Newman, J., dissenting).

force inventors of complex composition of matter technology away from patent protection to trade secret protection in order to adequately protect key inventions. This will undermine the whole purpose of the patent system.

This Court should grant certiorari to preserve fundamental patent rights and to maintain the integrity of the United States patent system.

ARGUMENT

I. THE FEDERAL CIRCUIT'S LIMITATION OF COMPOSITION OF MATTER CLAIMS THREATENS EFFECTIVE PATENT PROTECTION

The purpose of claims in a patent is to place the public on "notice" of the afforded scope of protection of the subject patent.[4] The law requires that the claims:

> ". . . reasonably apprise those skilled in the art both of the utilization and scope of invention . . ." [5]

The Federal Circuit's decision in *Exxon* undermines this clear requirement. While the full effect of the decision in *Exxon* has yet to be determined, the court's holding, which effectively concludes that a composition of matter which is claimed by listing the composition's ingredients can no longer be enforced unless none of the ingredients interact, interjects uncertainty and confusion into the construction of composition of matter claims. Composition of matter claims will no longer provide clear "notice" of the scope of protection afforded by such claims.

The standard method for claiming a composition of matter is by listing the ingredients used to formulate the

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[4] *Athletics Alternatives, Inc. v. Prince Manufacturing, Inc.*, 73 F.3d 1573, 1581 (CAFC 1996).

[5] *Shatterproof Glass Corp. v. Libbey-Owens Ford Co.*, 758 F.2d 613, 624, 225 U.S.P.Q. 634, 641 (Fed. Cir. 1985).

composition, together with their amounts and proportions. It is the clearest, easiest, most accurate, and in some circumstances the only, means of claiming a composition which contains multiple ingredients. The ability of an inventor to claim a composition of matter invention by listing the ingredients is confirmed by a leading text on claim drafting.[6] For decades, patent practioners have claimed composition of matter inventions in this matter.[7]

Traditionally, there has been no legal requirement to understand the complexities of one's invention.[8] Typically, little consideration has been given to the possible interactions between the ingredients due to this historical treatment of "ingredient-style" claiming in composition of matter inventions. Determining infringement of a composition of matter patent has heretofore been straightforward: the ingredients added to the accused composition have been compared with the list of ingredients in

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[6] Robert C. Farber, *Landis on Mechanics of Patent Claim Drafting*, § 49, at 148 (3d ed. 1990) cites in relevant part:

> "Composition of matter claims list the chemical ingredients (compounds, elements, or radicals) making up the composition or compound."

[7] See for example the claim at dispute in *Panzel v. Battle Island Paper Co.*, 132 F. 607, 608 (N.D.N.Y. 1904), in which a composition of matter was claimed as a list of ingredients. The claim reads:

> "3. A composition of matter for acid-proof lining of boilers, tanks, and similar vessels, composed of twenty-six per cent. of hydraulic cement, twelve per cent. of chamotte, twenty-one per cent. of quartz and of a suitable quantity of diluted silicate of soda."

[8] "[A]n inventor may be ignorant of the scientific principle, or he may think he knows it yet be uncertain, or he may be confident as to what it is, and others may think differently. All this is immaterial, if by the specification the thing to be done is so set forth that it can be reproduced." *Eames v. Andrews*, 122 U.S. 40, 56 (1887). *See also, Newman v. Quigg*, 877 F.2d 1575, 1581, 11 U.S.P.Q.2d 1340, 1345 (Fed. Cir. 1989).

the patent claim.[9] In short, composition of matter inventions which have been claimed by listing the formulation ingredients added are easy to search and examine for patentability, easy to understand and easy to interpret with respect to both scope and content.

In contrast, the Federal Circuit's decision will require the consideration of all possible interactions between ingredients when interpreting composition of matter claims. This adds a level of complexity and uncertainty unappreciated by the majority. Many composition of matter inventions involve the combination of numerous ingredients. To determine the potential interactions between these ingredients would often be an enormous undertaking requiring a significant expenditure of both financial and human resources. Sophisticated testing equipment and specialized techniques may be needed to determine such interactions. As a result, one skilled in the art will be unable quickly and easily to interpret the claims and ascertain the scope of the claimed invention.

In addition, a number of composition of matter inventions may have interactions so complex as to be indeterminable. Interactions may occur in multi-ingredient compositions to a much greater extent than the relatively simple, five component composition at issue in *Exxon*. These interactions may create unstable systems in which the ingredients are continually forming and reforming into new unknown and/or transient chemical species. In such instances, composition of matter patent protection under the Federal Circuit's decision in *Exxon* will be ineffective since the claims will apparently be unenforce-

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[9] See *American Chemical Paint Co. v. Firestone Steel Products Co.*, 117 F.2d 927, 930-31 (6th Cir. 1941) citing in relevant part:

> "Questions of infringement of patents for compositions of matter are peculiar to themselves. Infringement depends upon the identity or equivalence of the ingredients and upon substantial sameness of the proportions in which the ingredients are used."

able. In sum, the decision in *Exxon* substantially narrows one of the key statutory classes of invention for complex chemical compositions.[10]

A key feature of the current system is the ability to examine a competitor's patent and determine whether or not a product would infringe. In this manner, prospective manufacturers can determine in advance whether entry into the marketplace is allowed. Furthermore, should a prospective new product be likely to infringe the subject patent, its manufacturer must be able to clearly understand the patent claims in order to redesign the product and avoid infringement.[11]

Should the Federal Circuit's decision stand, non-patentee manufacturers may be kept out of the marketplace in complex chemical technologies since significant expense will now be required to investigate any potential interactions between ingredients when determining the scope of composition of matter claims. Competition may be stifled due to the lack of resources or the inability to investigate these complex interactions, without which freedom to practice over a competitor's patent cannot be determined.

In the alternative, the doubt created by the Federal Circuit's new method of claim construction necessarily raises the chances of patentees and competitor's being drawn into complex litigation. With the scope of given composition of matter claims in doubt, competitors may now be emboldened to exploit the previously protected

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[10] 35 U.S.C. § 101 (1988) states in relevant part:

> "Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title."

[11] For a more thorough description of this process known as "designing around" see *Slimfold Mfg. Co. v. Kinkead Industries, Inc.*, 932 F.2d 1453, 1457, 18 U.S.P.Q.2d 1842, 1845-46 (Fed. Cir. 1991).

inventions of patentees. Patent owners will be faced with the prospect of fighting for previously held market position. Litigation will take on the additional complexity of dueling experts testifying in minute detail over supposed interactions (or the lack thereof) between ingredients. The value of the patentees' business will be diminished since their patent portfolios will have been devalued.

Nor is the Federal Circuit's recommended solution a viable alternative. The court suggests that product-by-process claims [12] should be used to overcome the newly created obstacles to ingredient-style composition of matter claims.[13] Product-by-process claims are not specifically provided for in the patent statutes. Rather, the practice and law governing product-by-process claims have developed in response to the need to claim products which resist definition other than by the process by which they are made.[14] In fact, until the early 1970's it was a requirement that the inventor first had to show that the invention could not otherwise be claimed in order to be allowed to use product-by-process claim format. While this is no longer the practice,[15] the bias against product-

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[12] An example of a typical product-by-process claim is: "10. The product produced by the process of claim 1." Also see the claim at issue in *In re Thorpe*, 777 F.2d 695, 227 U.S.P.Q. 964 (Fed. Cir. 1985).

[13] *Exxon*, 64 F.3d at 1562, 35 U.S.P.Q.2d at 1808 (Plager, *Circuit Judge*, concurring).

[14] See *In re Painter*, 1891 C.D. 200, 57 O.G. 999 (1891), wherein Commissioner of Patents Simonds stated:

> "It requires no argument to establish the proposition that as a rule a claim for an article of manufacture should not be defined by the process of producing that article. On the other hand, when a man has made an invention his right to a patent for it, or his right to a claim properly defining it, is not determined by the limitations of the English language."

[15] See *In re Hughes*, 496 F.2d 1216, 182 U.S.P.Q. 106 (C.C.P.A. 1974) wherein product-by-process claims were permitted even

by-process claim language remains.[16] Thus, it is clear that, while product-by-process claims are recognized, their use is discouraged.

In addition, product-by-process claims are more narrow in their scope of protection than might appear. While the patentability of product-by-process claims is determined by the product itself, for infringement purposes such claims are defined and limited by the process.[17] Thus, the protection afforded by product-by-process claims can be avoided by using a different process to produce the identical product. Accordingly, the Federal Circuit's suggestion in *Exxon* to use product-by-process claims as an alternative to conventional composition of matter claim language is unsuitable for commercially important technology, especially if the invention is complex. Further, the Federal Circuit's suggestion ignores the reality that a large majority of composition of matter patents now in force do not use product-by-process claims. Thus, the decision in *Exxon* deprives a generation of patents of the scope of protection originally expected.

Therefore, it is respectfully submitted that this Court should not allow the Federal Circuit's decision in *Exxon* to undermine effective patent protection for composition of matter inventions.

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though Applicant could describe the invention in structural terms. See also, *In re Pilkington*, 411 F.2d 1345, 162 U.S.P.Q. 145 (C.C.P.A. 1969).

[16] In fact, the Patent and Trademark Office's Manual of Patent Examining Procedure still refers to product-by-process claims as "peculiar". Manual of Patent Examining Procedure § 2113, at 2100-31 (PTO 1995). See also, *Atlantic Thermoplastics Co. v. Faytex Corp.*, 970 F.2d 834, 23 U.S.P.Q.2d 1481, 1481, 1488 (Fed. Cir. 1992).

[17] See *In re Thorpe*, 777 F.2d 695, 697, 227 U.S.P.Q. 964, 965-966 (Fed. Cir. 1985), citing *In re Brown*, 411 F.2d 1345, 1349, 173 U.S.P.Q. 685, 688 (C.C.P.A. 1972); *In re Pilkington*, 459 F.2d 531, 535, 162 U.S.P.Q. 145, 147 (C.C.P.A. 1969); *Buono v. Yankee Maid Dress Corp.*, 26 U.S.P.Q. 57, 61 (2d Cir. 1935).

II. THE FEDERAL CIRCUIT'S DECISION THREATENS WELL ESTABLISHED RULES OF CLAIM CONSTRUCTION

Judge Newman's dissent in response to the Federal Circuit's denial of the petition for rehearing of *Exxon Chemical Patents, Inc. v. Lubrizol Corp.*[18] clearly illustrates the problems associated with changing the way in which composition of matter claims are construed: [19]

> The court's decision in the case of *Exxon Chem. Patents, Inc. v. Lubrizol Corp.*, 64 F.3d 1553, 35 USPQ2d 1801 (Fed. Cir. 1995), creates important new law governing the claiming of chemical compositions. Adopted by split panel decision, it is incorrect as a matter of law, as a matter of chemistry, and as a matter of patent practice. The panel majority's new rule of "claim construction" will cast a cloud upon many thousands of existing patents, and major classes of chemical invention will confront unclear, unnecessary, confusing, expensive, and perhaps impossible scientific requirements.

We agree. Unless corrected by this Court, the split panel decision in *Exxon* signals a major departure from the fundamental principles of claim construction for composition of matter claims.

For over a century,[20] patentees have recognized that a composition of matter type invention is best claimed by

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[18] 77 F.3d 450, 451, 37 U.S.P.Q.2d 1767, 1768 (Fed. Cir. 1996).

[19] The process of interpreting claims and assessing the scope that they are to be given is called "claim construction". Courts have viewed this process as being similar to the construction of statutes. "[T]he inability of words to achieve precision is none the less extant with patent claims than it is with statutes. The problem is likely more acute with claims." *Autogiro Co. of Am. v. United States*, 384 F.2d 381, 396 (Ct. Cl. 1967), *cert. denied*, 434 U.S. 1051 (1978).

[20] *See* William C. Robinson, *The Law of Patents for Useful Inventions*, § 192, at 278 (1890)

identifying the ingredients used to make the composition. Indeed, this Court settled the question of composition of matter claim construction over 60 years ago in *Holland Furniture Co. v. Perkin Glue Co.*[21] by stating:

> [a] patent, so far as it is a composition of matter, should contain some description of the ingredients entering into the composition . . .

The Federal Circuit's new interpretation of composition of matter claims directly contradicts this Court's precedent and over 60 years of subsequent decisions.[22] It unnecessarily introduces a new level of complexity and uncertainty into the complicated task of patent drafting and claim construction.[23]

> "A composition of matter is an instrument formed by the intermixture of two or more ingredients, and possessing properties which belong to none of these ingredients in their separate state. An ingredient is a substance which, though capable of independent existence, may yet so far lose its identity and individuality, when mingled with other substances, as no longer to be distinguishable from them."

[21] 277 U.S. 245, 254 (1928).

[22] See, for example, *American Purifyne Co., Inc. v. Novedel Process Corp.*, 3 U.S.P.Q. 180, 185 (2d Cir. 1929),

> "The complaint that the mixture claims give no information by which the mixture could be identified, does not invalidate them. None was necessary because both ingredients of the mixture were known and the means of identifying them were known. This was sufficient identification."

Further see *American Chemical Paint Co. v. Firestone Steel Products Co.*, 117 F.2d 927 (6th Cir. 1941); *Application of Henderson*, 348 F.2d 550, 551 (C.C.P.A. 1965), ("ingredients named in the claims which, when blended within the limits clearly set forth in the claims, provided the new combination for which appellant seeks a patent").

[23] This Court acknowledged the difficulties in patent drafting in *Topliff v. Topliff*, 145 U.S. 156, 171 (1892),

> "The specification and claims of a patent, particularly if the invention be at all complicated, constitute one of the most

Moreover, such changes in the way composition of matter claims are to be construed materially affect the patent assets of all assignees and licensees. U.S. Companies own literally thousands of patents as well as licenses to practice under patents assigned to others. These patents were issued and the licenses concluded based on a clear understanding of the claims under well established rules of claim construction. To change the method of claim construction now will throw considerable doubt on composition of matter claims in a patentee's or assignee's portfolio. This changes the bargained-for position of parties who entered into license agreements under long-accepted principles of claim construction.

Since composition of matter claims will no longer be interpreted based on the ingredients entering into the composition, chemical analysis will be required to determine whether the ingredients retain their original form within the composition, or have undergone chemical reactions to produce unsuspected components not specifically enumerated in the claims. Small or unsophisticated competitors will be at a particular disadvantage if detailed and expensive analyses are needed to determine the scope of claim coverage. All businesses will be forced to pass these costs on to consumers.

Therefore, it is submitted that the Federal Circuit's decision not only casts doubt on the established patent rights of patent owners and licensees who rely on composition of matter inventions, but also creates the need for expensive research to determine the actual scope of existing claims.

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difficult legal instruments to draw with accuracy . . . to describe with requisite certainty the exact invention of the patentee, and err either in claiming that which the patentee had not in fact invented, or in omitting some element which was a valuable or essential part of his actual invention."

III. THE FEDERAL CIRCUIT'S DECISION FRUSTRATES THIS COURT'S ATTEMPTS TO BRING CERTAINTY TO CLAIM INTERPRETATION

Clause 8, section 8, Article I of the Constitution of the United States gives Congress the power:

> [t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.

The United States Patent System is widely recognized as a successful means for providing an incentive to invest in research, development and innovation. Moreover, the patent system encourages early public disclosure of information by granting exclusive rights to the patentee versus an inventor who chooses to keep his or her invention secret.[24]

The need for certain and uniform application of the rules of claim construction has been long recognized as a necessary cornerstone of the patent system. Uniform and consistent application of the rules of patent claim construction allows patentees and prospective competitors to arrive at a reasonably consistent interpretation of the

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[24] See *Bauer & Cie v. O'Donnell*, 229 U.S. 1, 10 (1913) in which the Court stated that the purpose of the Patent Act was in the encouragement of useful invention and was intended to secure to the public, after lapse of exclusive privileges granted, the benefit of such inventions and improvements. The differences between patent protection and trade secret protection were explained by the court in *Tower Mfg. Co., Inc. v. Monsanto Chemical Works*, 20 F.2d 386, 387 (D.C.N.Y. 1927)

> "The outstanding difference is that a patentee has a monopoly as against all the world, while the owner of a secret process has no right, except against those who have contracted, expressly or by implication, to disclose the secret, or who have obtained it by unfair means."

scope of patent rights.[25] This Court quite recently recognized the importance of uniform claim construction in *Markman v. Westview Instruments, Inc.*[26]

> As we noted in *General Elec. Co. v. Wabash Appliance Corp.*, 304 U.S. 364, 369 (1938), "the limits of a patent must be known for the protection of the patentee, the encouragement of the inventive genius of others and the assurance that the subject of the patent will be dedicated ultimately to the public." Otherwise, a "zone of uncertainty which enterprise and experimentation may enter only at the risk of infringement claims would discourage invention only a little less than unequivocal foreclosure of the field." *United Carbon Co. v. Binney & Smith Co.*, 317 U.S. 228, 236 (1942) . . . It is just for the sake of such desirable uniformity that Congress created the Court of Appeals for the Federal Circuit as an exclusive appellate courts for patent cases. H.R. Rep. No. 97-312, pp. 20-23 (1981), observing that increased uniformity would "strengthen the United States patent system in such a way as to foster technological growth and industrial innovation." *Id.*, at 20.

Moreover, this Court recently granted certiorari in *Hilton Davis*[27] to resolve the lower courts' confused application of the doctrine of equivalents in patent infringement cases.

Notwithstanding this Court's goal to increase uniformity and certainty, the Federal Circuit has now introduced

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[25] *Merrill v. Yeomans*, 94 U.S. 568, 573-74 (1876)

> "It seems to us that nothing can be more just and fair, both to the patentee and to the public, than that the former should understand, and correctly describe, just what he has invented, and for what he claims a patent."

[26] 134 L.Ed.2d 577, 38 U.S.P.Q.2d 1461 (U.S. 1996).

[27] *Hilton Davis Chemical Co. v. Warner-Jenkinson Company, Inc.*, 62 F.3d 1512, 35 U.S.P.Q.2d 1641 (Fed. Cir. 1995), *cert. granted*, 116 S. Ct. 1014 (1996).

inconsistency and confusion into the interpretation of composition of matter claims. In one stroke, the decision in *Exxon* deprives both the patentee and prospective competitors of the ability to know where they stand when bringing products into the market. The unintended, but likely, result of *Exxon* will be to force inventors of complex composition of matter technology away from patent protection to trade secret protection in order to adequately protect key inventions. This defeats not only this Court's goal of patent uniformity, but also the constitutional goal promoting the useful arts via the patent system.

It is respectfully submitted that the uncertainties now introduced by the Federal Circuit in *Exxon* involving the literal interpretation of composition of matter claims profoundly affect the patent system and are at least as worthy of consideration by this Court as the issues in *Markman* and *Hilton Davis*.

CONCLUSION

For the reasons set forth above, this Court should grant the petition for a writ of certiorari.

Respectfully submitted,

STEVEN W. MILLER
Counsel of Record

MICHAEL D. JONES
BRIAN M. BOLAM

Winton Hill Technical Center
6100 Center Hill Road
Cincinnati, Ohio 45224
(513) 634-4490

Counsel for Amicus Curiae
The Procter & Gamble Company